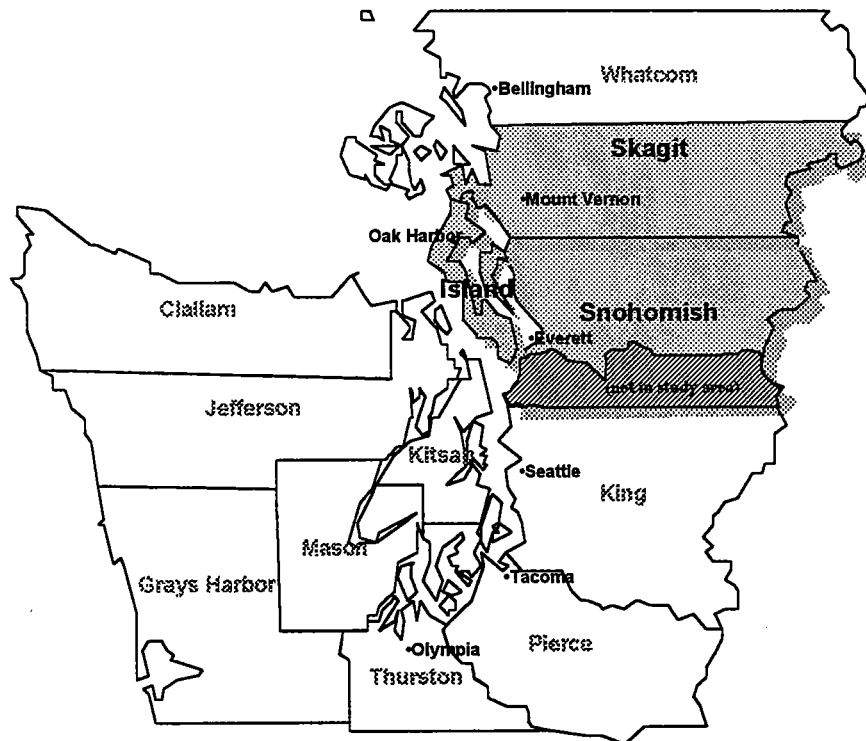


***Evaluation of Higher Education and Work Force
Training Needs and Program Delivery Alternatives for
the North Snohomish, Island and Skagit County Area of
Washington State***



FINAL REPORT

SUBMITTED BY:

*MGT of America, Inc.
1607 Cooper Point Road NW, Suite 102
Olympia, WA 98502*

October 31, 1996



October 31, 1996

Mr. James A. Reed
Associate Director
Higher Education Coordinating Board
917 Lakeridge Way
Olympia, WA 98504-3430

Dear Mr. Reed:

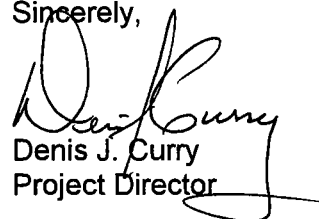
On behalf of MGT of America Inc., I am pleased to transmit our final report, *Evaluation of Higher Education and Work Force Training Needs and Program Delivery Alternatives for the North Snohomish, Island and Skagit County Area of Washington State*. The final report incorporates clarifications and minor revisions resulting from the public hearings and reviews conducted earlier this month.

This report is the result of several months of study of the needs of the area from both quantitative and qualitative perspectives. In addition, it responds to the study directive through a careful examination of the use of technology and distance education as a means of meeting the higher education needs of the area. We believe the approach we have recommended is the most cost-effective way of meeting the needs which we have identified and will promote the accomplishment of the enrollment goals of the Board.

We were assisted in this effort by the Project Coordination Team and the Planning Advisory Group which you established, the staffs of state agencies and the affected institutions, and by employers, public officials and residents of the area. The combination of objective evidence and the thoughtful opinions of those concerned with higher education has created a solid base for our findings and recommendations.

We look forward to presenting our report to the Board in November.

Sincerely,


Denis J. Curry
Project Director

Enclosure

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***SUMMARY OF FINDINGS AND
RECOMMENDATIONS***

SUMMARY OF FINDINGS AND RECOMMENDATIONS

Findings

1. Quantitative

The quantitative analysis conducted in the study indicates a significant and expanding unmet need for higher educational services in the North Snohomish, Island, and Skagit County area. By the year 2010 there will be a need to serve over 6,500 added FTE students in the study area, divided approximately equally between community college/lower division and upper division/graduate. This need will grow to nearly 10,000 FTE by 2020. The table below outlines the projected enrollment that will need to be accommodated by higher education initiatives in the study area.

YEAR	COMMUNITY COLLEGE	UPPER DIVISION AND GRADUATE	TOTAL
2000	971	771	1,742
2005	2,270	2,051	4,321
2010	3,239	3,309	6,548
2015	4,077	4,248	8,325
2020	4,793	5,143	9,936

2. Qualitative

The qualitative analysis has clearly identified the factors that are most important to a broad cross section of residents and employers in the study area. These needs and concerns were repeatedly reinforced across time and among the various groups contacted. The concerns are:

- accessibility (geographic, programmatic, and degree level);
- job-related programs tied to current and future economic trends;

- collaboration of business, government and education, with the sharing of complementary resources;
- a visible postsecondary education presence;
- the need for program information;
- the need for support services (academic advising, career counseling, financial aid, job placement, child care, etc.); and
- appropriate delivery systems.

Recommendations

1. Organizational Structure

At the community college/lower division level, we recommend that the needs identified in the study be met by the three area community colleges. Based on information provided by the State Board for Community and Technical Colleges, we believe that all of the enrollments can be accommodated by Edmonds, Everett and Skagit Valley community colleges at full build-out capacity and through added off-campus and evening enrollments although it is likely that some additional facilities will be needed by these institutions.

At the upper division and graduate levels, the study findings support a staged response; one that would begin in the form of a multi-institution higher education center that can evolve with time, depending on area access and program needs. The following outline describes the primary features and developmental phases of the recommended model.

PHASE I: MULTI-INSTITUTION HIGHER EDUCATION CENTER (BASED ON SOUTH CAROLINA'S GREENVILLE HIGHER EDUCATION CENTER AND THE SOUTH CENTRAL INDIANA EDUCATIONAL ALLIANCE):

- Multi-institution, consortium-based, Higher Education Center offering fully articulating academic and technical programs at the upper-division and graduate levels.

- Multi-locational, with a site, a facility, and interactive technological connections to each of the three area community colleges and satellites, the area military bases, and the tribal centers in a network that would employ classroom, job site, and telecommunications and other technologically transported learning experiences.
- The Center would be located in a nucleus facility at an appropriate site, modeled on the Greenville Higher Education Center complex (the GHEC complex features state-of-the-art classrooms, computer laboratories, study areas, conference rooms, counseling areas, student commons, exhibit hall, televised study classrooms, administration and faculty offices).
- Institutional Consortium members of the Higher Education Center would include Western Washington University; Central Washington University; the University of Washington, Washington State University; and Edmonds, Everett, and Skagit Valley Community Colleges.
- The presence of strong and active community support and employment-relevant education would be assured by an Association of community representatives from the three affected counties who would be responsible for identifying and advising the consortium on local educational needs and other matters associated with the community interest. Military base and tribal representation would be a feature.
- The organizational structure of the Higher Education Center would comprise the institutional partners of the Consortium and the members of the Association of community representatives in a coalition designated the "Alliance."
- Basic roles and responsibilities associated with institutional membership in the Consortium and community Association involvement in the Alliance would be specified through a memorandum of understanding (MOU) and other inter-local agreements.
- A four-year public institution (possibly Western Washington University or the University of Washington by virtue of their proximity) would serve as fiscal agent and site management and coordinating institution; the coordinating institution also would be the lead institution for purposes of accreditation. The HECB may wish to consider proposals from participating public four-year institutions to serve as the fiscal agent/site manager/host institution for the Higher Education Center.
- Area community colleges would provide all lower-division instruction; their classroom and laboratory facilities also would be potential instructional sites, on a time-available basis, for participating

institutions; conversely, nucleus facility classrooms and other instructional facilities would be available to any participating institution on a scheduled basis.

- Servicing institutions would assume responsibility to provide the preponderant portions of complete individual programs, filling in gaps with courses offered by other participating institutions; private colleges and universities could provide program services and courses on a contractual basis; student financial assistance would be available through the institution sponsoring the respective students' program (aid also might be available directly through the site management or host institution).
- Tuition and fees at the lower-division level would be those of the area community colleges; upper-division and graduate tuition and fees would be those of the regional universities; as a matter of principle, the capital outlay and the services and activities portions of student fees would be associated with the Center.
- The Center would be a "teaching institution" in the sense it would have an instructional mission, and the program focus would be academic and technical, with instructional programs suited to service area needs; a heavy emphasis would be placed on programs such as the Bachelor of Technology and on fully-articulating ("seamless") lower- and upper-division programs.
- Baccalaureate and graduate programs would be completable "on site," i.e., wholly within the Center (including its technological network) without additional residence requirements.
- Student/faculty ratios and costs would correspond with extant standards.

CRITERIA GOVERNING PASSAGE TO PHASE II, IF ORGANIZATIONAL CHANGE IS DEEMED TO BE DESIRABLE:

- Established operating history of no less than Five Years.
- No less than 3,000 FTEs, with a potential of growth to no less than 5,000 FTEs.
- An academic plan approved by the HECB, and no less than five baccalaureate or above programs that can be completed wholly at the site (w/telecommunications)
- Statistical evidence that the demand is permanent

PHASE II: UPPER-LEVEL AND GRADUATE CAMPUS OF AN APPROPRIATE UNIVERSITY (BASED ON UPPER-LEVEL UNIVERSITIES IN WASHINGTON, CALIFORNIA, ARIZONA, TEXAS, AND FLORIDA):

- Upper-Level/Graduate Campus of an appropriate Washington university, as specified by the HECB.
- Participants: Parent University and area community colleges, with community colleges responsible for lower-division instruction, and continued participation of other four-year institutions if appropriate.
- Home institution responsible for expanded services through contractual arrangements with other interested institutions.
- Program Focus: Academic and Technical, suited to service area needs.
- The community Association becomes an institutionally appointed Campus Community Advisory Board.
- All programs completable at the site (and technological network)
- Student/Faculty ratios and costs correspond with main campus standards.
- Master planning and site acquisition for a permanent campus and permanent facilities authorized and funded.

2. Delivery Systems

The following recommendations apply to the organizational approach outlined above and, while general in application, are offered in the context of this study.

- Expand upon the use of Internet and the World Wide Web (WWW) to deliver courses.
- As appropriate, multiple technologies should be employed in distance education courses, e.g., a two-way video course can be enhanced significantly if the resources of the Internet also are included.
- Area institutions, including the organizational alternative selected to respond to upper division and graduate needs, should assess the needs of the private sector and design (with their involvement) training/staff development programs to be delivered remotely.

- Area program planning should provide for ways to implement the concept that has been discussed by some institutions recently in which some courses are offered by one institution and delivered to students anywhere in the state via the K-20 Network.
- The response to area needs should include establishment of centers for learning in communities where there is a large number of disadvantaged students or that are far from area population centers.
- Area institutions should continue to expand the number and type of courses offered in a distance education format. All courses should be analyzed to see if they could effectively be delivered to students at sites other than the campus where the course originates.
- As consideration is given to moving courses into a telecommunications format, ensure that all such actions are done so that they fit within the parameters of the K-20 Network.
- Consideration should be given to setting percentage targets that are to be met via technological methods that avoid time, place constraints for students and minimizes facility requirements.

By the year 2020 the study area will have realized an enrollment growth of approximately 10,000 FTE students. The HECB, in consultation with the concerned institutions, should set percentage targets for each of these levels that are to be met, over time, utilizing technology to provide students flexibility concerning time and place and to minimize capital construction. It is recommended that the following be considered for initial discussion.

**MINIMUM PERCENTAGE TARGETS
TO BE SERVED ELECTRONICALLY BY
PROGRAM LEVEL WITHIN THE STUDY AREA**

YEAR	LD	UD	GRADUATE
2000	5%	5%	2%
2005	10%	10%	5%
2010	20%	15%	10%
2020	25%	20%	15%

When these percentage factors are applied to the projected enrollments as of 2020, it is estimated that approximately 2,125 of the 10,000 additional FTE students will be served through distance education technologies.

1.0 INTRODUCTION

1.0 INTRODUCTION

MGT of America, Inc., is pleased to transmit its report on the higher education and work force training needs and program delivery alternatives for the North Snohomish, Island and Skagit County area.

The three counties included in the study area are among the fastest growing locations in the State of Washington and have been the subject of extensive discussion over the past several years regarding the level of postsecondary education services available to area residents. As shown in Exhibit 1-1 on the following page, the study area is in the North Puget Sound region and includes that portion of Snohomish County not covered by MGT's 1993 study of the postsecondary education needs of the North King and South Snohomish area¹. The study area is served by Everett, Edmonds and Skagit Valley community colleges and by four-year institutions headquartered outside the study area. No public or private four-year institutions are located in the study area at the present time although several offer programs in the three counties.

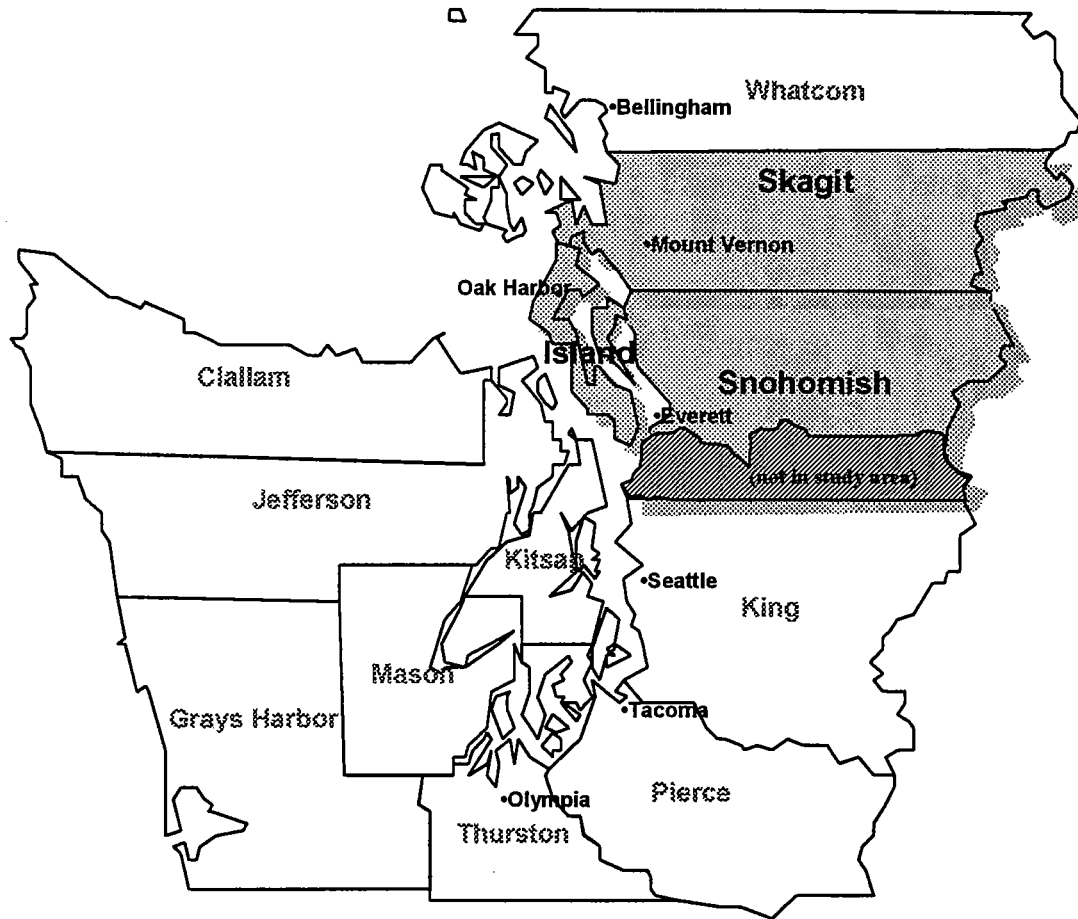
The study is in response to a provision in the 1996 Appropriations Act calling upon the Board to undertake:

" . . . a study of higher education needs in North Snohomish/Island/Skagit counties. The board is directed to explore and recommend innovative approaches to providing educational programs. The board shall consider the use of technology and distance education as a means of meeting the higher education needs of the area. The study shall be completed and provided to the appropriate committees of the legislature by November 30, 1996."²

¹ MGT of America, Olympia, WA, 1993

² Chapter 283, 54th Legislature, 1996 Regular Session.

Exhibit 1-1



The request for proposals issued by the Board stressed three major categories of analysis: (1) identification of the full range of postsecondary education needs in the study area, including both the needs for conventional higher education services and for work force training and retraining programs; (2) consideration of alternative methods of program delivery, including assessment of their feasibility and their cost-benefit relationships; and (3) attention to the alternative organizational models and structures for delivering programs. Examination of "distance learning" methods as means of program delivery was particularly stressed.

With respect to the first of these, identification of postsecondary education needs, the study area is one of several in Washington that have been subjects of postsecondary education planning interest in recent years.³ As noted in the HECB's RFP, the population of the area is increasing at a rate over 50 percent greater than the rest of the state. Population growth between 1990 and 1995 for Island and Skagit Counties, for example, is estimated at 12.6 percent, and that for Snohomish at 15.4 percent. These figures compare with the average population increase of 8.7 percent for the state generally during this period.

The three counties are considered to be among the top four on this measure and are expected to remain so. The Office of Financial Management 1995 *low series* population projections to the year 2020 for the three counties, and, for comparison purposes, the state as a whole for selected years during this period are as follows:⁴

³ A careful review of the literature was an important work element. Project team members reviewed numerous pertinent documents including the following:

"Building a System. . . to be Among the Best" (The Washington State Master Plan for Higher Education." December 1987) is the basis of the branch campus movement in Washington. Among its recommendations were those calling for additional upper-division and graduate services to be provided in Spokane, Vancouver, the Tri Cities, and the Puget Sound area. These recommendations and the resultant policies were reaffirmed in the HECB's 1992 Plan Update.

The "Plan to Expand Upper Division and Graduate Programs in the Puget Sound Region," a report to the HECB from the University of Washington (1988) set the framework for basic planning for the Bothell branch campus (as well as for the Tacoma campus). This report examined participation rates and prospective growth and inequities in access. It identified three major metropolitan regions surrounding Seattle (Puget Sound south, Puget Sound north, and mid-Sound) as regions that would soon constitute the three largest population centers in the state.

"Branch Campus Development Alternatives," (MGT of America/SRI/EDL&A, November 1989) provided estimates of needs and demand, analyzed available capacity in existing institutions, established the service area for UW-Bothell as "Snohomish County and the northern and central parts of King County, excluding Seattle."

"Design for the 21st Century: Expanding Higher Education Opportunity in Washington" (July 1990) reaffirmed the Board's commitment to branch campus development. This report includes enrollment goals, space allocations, utilization standards, cost guidelines, and appropriate square footage to be built in each campus phase.

⁴ Office of Financial Management, "Washington State County Population Projections, By Age and Sex, 1990-2020, 1995 Projections, Low Series," pg. 8.

**LOW SERIES WASHINGTON POPULATION PROJECTIONS
SELECTED COUNTIES AND YEARS**

	1995	2010	2020
Island	68,901	86,171 (25%)	94,789 (37%)
Skagit	93,101	118,853 (27%)	139,560 (49%)
Snohomish	525,596	692,743 (31%)	785,011 (49%)
Total State	5,429,879	6,379,631 (17%)	7,023,542 (29%)

The OFM high series projections are even more dramatic:

**HIGH SERIES WASHINGTON POPULATION PROJECTIONS
SELECTED COUNTIES AND YEARS**

	1995	2010	2020
Island	68,901	98,667 (43%)	118,779 (72%)
Skagit	93,101	136,644 (46%)	176,067 (89%)
Snohomish	525,596	762,690 (45%)	921,510 (75%)
Total State	5,429,879	7,082,719 (30%)	8,365,569 (54%)

Depending on which projection is most accurate, the three-county population will either increase from its 1995 figure of 687,598 to nearly 900,000 by 2010, and to nearly 1,000,000 by the year 2020, the low estimate, or to more than 1,000,000 by 2010, and more than 1.2 million by 2020, in the case of the high estimate.⁵ After a review of the alternatives with OFM, it was decided to use the *medium* projections for this study.

College participation rates are important descriptors of unmet need in Washington, and the HECB has set the 70th percentile of the national college participation rate at the upper division and graduate levels as a goal for the year 2020. According to information provided by the Office of Financial Management, the upper division and graduate participation rates in the three county area are well below desired

⁵ OFM County Population Projections, *op. cit.*, pp. 6 & 8.

levels. Therefore an important study element was a *quantitative analysis* of the needs of the area. This aspect is discussed in Chapter 2 of this report.

The identification of *program* needs involves a more qualitative approach. Whatever else, the programmatic issues associated with the identification and resolution of workforce preparation, college transfer, adult education, and upper division disparities in participation rates are critical and our review has placed considerable emphasis on this area of inquiry.

Needs for programs and courses of study can be understood from a variety of perspectives. Some are purely educationally motivated while others are career motivated, affecting pre-college students seeking initial certification for job entry and employed adults seeking career advancement. Some represent the needs of local employers for an educated work force, and for the professional support that a locally available faculty can provide. Economics is at the base of many, perhaps most, educational needs in the form of affordable college experiences, the benefits of career advancement, and community economic development. Our review has indicated that all of these motivations affect the perspectives of area employers, residents, and community leaders on the need for additional educational alternatives. Chapter 3 discusses this area of study emphasis in detail.

The need to “break the mold” in examining program delivery alternatives has been an important aspect of the study. The Legislative study directive states that, *“The HECB is directed to explore and recommend innovative approaches to providing educational programs. The HECB shall consider the use of technology and distance education as a means of meeting the higher education needs of the area.”* Chapter 4 contains a discussion of the part that new and emerging educational delivery technologies can play in addressing the needs of the area.

In Chapter 5 we discuss a range of potential organizational models which were identified and considered in the study. In recent years, traditional organizational forms have been augmented by a wide range of new approaches. Where once the response to enrollment pressure would be to establish a new free standing college or university, other forms are being explored. Recently, Washington has witnessed the creation of branch campuses of the University of Washington (one of which is co-located) and Washington State University, and the Spokane consortium Joint Center for Higher Education. It is clear that new organizational forms are being established with greater regard to the needs of communities than to long held perceptions of traditional forms. Chapter 5 also identifies criteria with which the alternative models were evaluated and on which our recommendation is based. These criteria were derived from extensive consultation with two groups which have been an integral part of the project. These are:

- The *Project Coordination Team* (or PCT) composed of representatives of the public institutions in the area, the Office of Financial Management, the State Board for Community and Technical Colleges, the HECB, and a community representative.
- The *Planning Advisory Group* (or PAG) composed of community and governmental representatives of the study area.

Both groups have been of substantial assistance in advising the consulting team, identifying and ranking evaluation criteria, assisting in identifying persons to be interviewed, arranging local forums, and in reviewing materials leading to this report. Appendix A contains the names and positions of the members of the two groups.

2.0 ENROLLMENT ESTIMATION METHODOLOGY

2.0 ENROLLMENT ESTIMATION METHODOLOGY

The quantitative aspect of this study centers around three key areas; 1) The projections of the 17 and older population for each county; 2) Current higher education participation rates for students within each county based on 1995 enrollment and; 3) Participation rate goals adopted by the Higher Education Coordinating Board.

2.1 Population Projections

Official population projections for Island, Skagit and Snohomish counties were obtained from the Office of Financial Management (OFM). Based on advice provided by OFM, the projections were disaggregated for the following age categories: 17 to 22, 23 to 29, 30 to 39, and 40 and older. These projections, when combined with actual and target participation rates, were used to develop enrollment estimates for lower division, upper division and graduate/professional program areas. Since Snohomish county has been divided nearly in half by the study area boundary, it was necessary to develop separate projections for both the northern and southern portions of the county. To accomplish this task, updated population projections were obtained from the Puget Sound Regional Council (PSRC) by forecast analysis zone (FAZ). A forecast analysis zone is composed of several census tracts and serves as the basis from which population forecasts are developed for areas within and crossing county lines. Since the PSRC does not develop projections by age, the OFM single year of age population projections for the county have been applied to the PSRC estimates.

There are minor differences in population projections between the PSRC and OFM as indicated in Exhibit 2-1.

**EXHIBIT 2-1
POPULATION PROJECTIONS FOR SNOHOMISH COUNTY**

	1990	1995*	2000	2005*	2010	2015*	2020
OFM	465,642	525,596	582,519	660,682	719,914	783,066	836,992
PSRC	465,642	526,354	587,065	647,012	706,959	770,310	833,661
OFM minus PSRC	-	(758)	(4,546)	13,670	12,955	12,756	3,331
Percent Difference	0.000%	-0.144%	-0.774%	2.113%	1.832%	1.656%	0.400%

*No forecasts were made by the PSRC for 1995, 2005 and 2015. Population was calculated by adding the years adjacent to each non-forecasted year and dividing by 2.

The FAZ amounts were subsequently adjusted by the percentage factors shown above to determine projections for the northern and southern portions of the county. Exhibit 2-2 below identifies the distribution of the county totals.

**EXHIBIT 2-2
POPULATION DISTRIBUTION BETWEEN
NORTH AND SOUTH SNOHOMISH COUNTY**

	1995	2000	2005	2010	2015	2020
Total County	525,597	582,520	660,683	719,915	783,067	836,993
South Snohomish	324,763	360,789	420,178	460,636	501,089	532,317
North Snohomish	200,835	221,731	240,505	259,279	281,978	304,676

2.2 Enrollment

Enrollment data were gathered for each student in the study area enrolled at a Washington public college or university by institution, county, zip code, age, gender and level. In addition, information contained in *Higher Education Enrollment Statistics*

and Projections, 1995-97 and its April, 1995 *Supplement* published by OFM has been used in the estimation process.

Enrollment projections for the study area are based on Fall 1995 participation rates and enrollment policy goals. Existing enrollment was categorized by the same age breakdowns as the population information provided by OFM, e.g., 17 to 22, etc. Participation rates for each age category were then calculated for Island and Skagit counties and the northern portion of Snohomish county. Separate calculations were made for community and technical college enrollment, four-year institution lower division enrollment, upper division enrollment, and graduate and professional enrollment.

Enrollment projections through 2020 were made by applying either the present participation rate (by age category) or a rate reflecting a goal established by the higher education coordinating board to the population projections for each age category. Current rates were used in the case of community college enrollment in Skagit and North Snohomish counties and in the case of four-year lower division enrollment. A slight increase in community college participation was forecast for Island County. At the upper division and graduate levels, goal based participation rates provided by the Office of Financial Management were used to reflect the HECB objectives of achieving the current national participation rates by 2010 and the 70th percentile by 2020. Exhibit 2-3, reflects the aggregate head count enrollment projections for the study area by five year increment through the year 2020.

EXHIBIT 2-3
AGGREGATE HEAD COUNT ENROLLMENTS FOR STUDY AREA

YEAR	COMMUNITY COLLEGE	LOWER DIVISION	UPPER DIVISION	GRADUATE	TOTAL
1995	16,419	1,058	2,039	337	19,853
2000	18,413	1,278	2,676	734	23,101
2005	21,080	1,482	3,640	1,275	27,477
2010	23,070	1,610	4,535	1,844	31,059
2015	24,791	1,687	5,341	2,163	33,982
2020	26,260	1,740	6,116	2,470	36,586

2.3 Unmet Need

A key element in the analysis is identifying "unmet" need. In other words, the enrollment which either cannot, or likely will not, be accommodated by existing institutions. In order to identify these figures it is necessary to make a number of assumptions. The assumptions used in this analysis are affected by the HECB long range plan, announced institutional plans, official estimates of maximum capacity and previous studies of unmet need in adjacent areas. The assumptions are as follows:

- The pattern of current service by existing institutions to persons from the study area will parallel population growth in the area up to limits assumed in the HECB plan or to the limit of maximum capacity estimated by the State Board for Community and Technical Colleges (SBCTC).
- The patterns of current service will not, in and of themselves, contribute to achieving HECB participation rate goals.
- Although it is recognized that all of the institutions in the area will serve students from the area, some of them have had their capacity determined or fully attributed by a previous study of the needs of the North King and South Snohomish County area. These institutions cannot provide net additional capacity to the current study area, and added enrollment will be considered to be a "trade-off" among the areas.
- Insofar as possible, existing community colleges in the study area will grow in response to increases in projected enrollment although added space and funded FTE will be needed.

Appendix B contains the detailed calculations of aggregate need and the extent to which area institutions are assumed to respond to the need under the assumptions outlined above. In summary, the results of the analysis, expressed in head count enrollment are as follows:

- Community college enrollments will grow to 23,070 in 2010 and to 26,260 in 2020. All of the enrollments could be accommodated by Edmonds, Everett and Skagit Valley community colleges if their facilities were developed to more nearly the full build-out capacity of their campuses and through added off-campus and evening enrollments per estimates from the SBCTC.
- Four-year lower division enrollments will grow in proportion to population growth and will be accommodated by existing Washington institutions of higher education
- Upper division and graduate enrollments will grow as indicated in Exhibit 2-4 with a total unmet need of approximately 3,650 in 2010 and 5,700 in 2020. Although existing institutions will accommodate most of the increase associated with population growth, the response of the University of Washington and Western Washington University, the two universities serving the area most directly, is limited to the three county area share of institutional growth assumed in the HECB plan.

**EXHIBIT 2-4
UNMET NEED FOR UPPER DIVISION AND
GRADUATE ENROLLMENT IN THE STUDY AREA**

YEAR	PROJECTED ENROLLMENT	ACCOMMODATED ENROLLMENT	UNMET NEED
1995	2,376	2,376	-
2000	3,410	2,523	887
2005	4,915	2,635	2,280
2010	6,379	2,733	3,646
2015	7,504	2,811	4,693
2020	8,586	2,881	5,705

2.4 Conversion to Full Time Equivalent Enrollment

The previous discussion has dealt with the participation rates expressed on a per person, or head count, basis. In order to address differences in the distribution of full and part time enrollments, higher education uses a common measure of a "full time equivalent," or FTE student, based on the number of credit hours for which students enroll. The head count enrollment identified above has been converted to FTE as follows:

- In the case of community college enrollments, the statewide average of .487 state funded FTE per total head count was used
- In the case of the ability of four-year institutions to accommodate normal growth from the study area, their respective FTE to head count ratios were used
- In calculating the FTE of the enrollment included in the "unmet need" category, the enrollment under age 30 was assumed to be predominately full time and the average FTE to head count of the UW and WWU of .95 was used. The enrollment aged 30 and over was estimated to be more part time in nature and the experienced ratios of UW-Bothell and UW-Tacoma of .67 was used.

Exhibit 2-5 identifies the community college enrollment growth which will need to be met in the study area and the unmet upper division and graduate need in terms of full time equivalent students. Chapters 4 and 5 of this report address the issue of meeting the needs for these projected enrollments.

EXHIBIT 2-5
FULL-TIME EQUIVALENCY OF NEEDED COMMUNITY COLLEGE ENROLLMENT
GROWTH AND NEEDED UPPER DIVISION AND GRADUATE ENROLLMENT

YEAR	COMMUNITY COLLEGE	UPPER DIVISION AND GRADUATE	TOTAL
2000	971	771	1,742
2005	2,270	2,051	4,321
2010	3,239	3,309	6,548
2015	4,077	4,248	8,325
2020	4,793	5,143	9,936

2.5 Estimated Impact of Area University Growth Plans

During the course of the study indications were received that area universities were considering expanding enrollments beyond those assumed in the HECB plan in order to respond to identified statewide needs. The University of Washington Operating and Capital Budget Request as approved by their Board of Regents proposed extensive enrollment growth at all campuses, including a growth of nearly 8,000 FTE by 2010 at the main campus. Western Washington University is considering a growth of 4,000 FTE over the same period. Since these universities are adjacent to the study area and on-campus growth could have an effect on the unmet need calculations, it was necessary to analyze the participation patterns of the study area at their main campuses. The projected growth at the UW Bothell campus already has been taken into account in the planning for that facility.

According to OFM's April 1995 *Supplement to Higher Education Enrollment Statistics and Projections*, students from the three county area comprise approximately 7.5 percent of the University of Washington total head count enrollment and 16 percent of Western Washington University's. When the southern portion of Snohomish County is deducted, the share drops to approximately 3.5 percent of the UW and 10 percent of

WWU. Applying these percentages to the projections of the two universities results in a potential FTE growth from the study area of 283 at the UW and 391 at Western by the year 2020. How much of this growth will be at the upper division and graduate levels is unknown. To the extent that the two universities attempt to meet their growth projections though bringing programs into the study area, as discussed in Chapter 5, the effect on unmet need would be much greater.

3.0 QUALITATIVE ANALYSIS OF NEEDS

3.0 QUALITATIVE ANALYSIS OF NEEDS

3.1 Qualitative Methodology

While the quantitative analysis reviewed in Chapter 2.0 is an important study element, the qualitative analysis of needs is even more important since it suggests the necessary program areas where a positive response is required. To implement this study aspect, qualitative data were gathered to identify both near- and long-term higher education and workforce training needs within the study area. Triangulation, or the convergence of information from multiple sources, is important in establishing validity in qualitative research. Therefore, the qualitative methodology utilized various sources including: community meetings; telephone surveys with employers and residents; structured interviews with community and business leaders; written surveys from the public; written surveys and focus groups with students; and meetings with institution and community based advisory groups.

An emphasis was placed on gathering qualitative information from, and on identifying and understanding the opinions and needs of, individuals throughout the study area; in many cases, from individuals who would not normally attend a public meeting. Respondents included a broadly representative group of community leaders, study area residents, educators, area employers, students, and elected officials. Particular efforts were made to obtain input from Native American tribal groups, older adult learners, and Navy personnel. Participants provided feedback regarding their satisfaction with current service levels, perceived program needs, and preferred delivery systems for postsecondary education programs.

Initially, public participation was solicited by means of open public meetings providing opportunities for the public to drop-in and express their views. These

sessions were held in six locations throughout the study area: Stanwood (August 19), Oak Harbor (August 20), Anacortes (August 21), Everett (August 22), Mount Vernon (August 26) and Marysville (August 28). In a collateral activity, project team members scheduled time at the Tulalip Tribal Administrative Offices (August 28) near Marysville to gather opinions and recommendations regarding postsecondary education needs on the Tulalip Indian Reservation.

Publicity for these activities included local media, area legislative contacts, and the efforts of PAG and PCT members. An advertisement, donated by the Everett *Herald*, allowed for widespread awareness of the study and open meeting schedule, and included a mail-in survey of residents' opinions (see Appendix C). While attendance at the public sessions was generally light, they provided an excellent opportunity for extensive interaction with community members and the development of deeper insights, characteristic of qualitative observations. Opportunities for public response were further supplemented by subsequent newspaper surveys and a telephone survey of over 110 randomly selected area residents.

Community members attending the public meetings were invited to participate in the following ways: complete a one-page survey, talk with a project team member, engage in a town meeting discussion, or provide written comments on previously identified issues. The four issues were "service delivery options," "programs of greatest need (now and in the future)," "support services needed" and "accessibility considerations."

Qualitative data gathering also included contact interviews with over 60 individuals identified as community leaders interested in and concerned with postsecondary education. These persons, selected from the advisory groups' recommendations, were broadly representative of the study area, both geographically

and vocationally. A representative from each of the study area's largest employers (500+ employees) was included on the interview schedule. A standard interview guide was utilized for purposes of consistency and comparison (Appendix D).

The third group targeted for input was students. While attempts were made to establish focus groups, the study schedule placed efforts at a time when few, if any, students were on the study area's campuses. In response to this situation, permission was obtained for a project team member to be on campus during a "drop in" academic advising session, where completed surveys were secured on an individual basis. The team member was also invited to attend a group advising session, where additional survey responses were collected. Campus-based Displaced Homemaker programs were contacted in an effort to focus on that population's postsecondary education needs. Although administrators at both sites worked to arrange focus groups, their efforts were unsuccessful, again due to timing. One program administrator contacted several participants, obtaining permission to release first names and telephone numbers to the project team. These persons were then surveyed by telephone. Finally, a student focus group composed of Navy personnel was arranged at NAS-Whidbey Island. The meeting offered an opportunity for participants to provide detailed responses.

3.2 Employer Survey

An important part of the qualitative analysis was to gather opinions of area employers. A telephone survey of a stratified sample of employers was conducted between August 16 and August 23 using a computer aided telephone interviewing system. A copy of the survey is included in Appendix E.

A total of 278 surveys were conducted. Two important factors, company location and size, were the driving force in determining the correct statistic sample throughout the three county area. Exhibit 3-1 shows the frequency distribution of respondents by location and size.

**EXHIBIT 3-1
DISTRIBUTION OF RESPONDENTS**

COMPANY SIZE	COMPANY LOCATION			
	SNOHOMISH	ISLAND	SKAGIT	TOTAL
100 or Less Employees	66	65	65	196
More than 100 Employees	60	5	17	82
Total:	126	70	82	278

A wide variety of businesses participated in the telephone survey. Among them, sole proprietors, manufacturers (large, medium and small), consulting firms, the medical industry, consumer services, and finance. Local government agencies were not included in the survey, but were consulted in other aspects of the qualitative analysis.

Three major research areas were identified throughout the survey instrument. These areas were present and future workforce, present and future education/training needs and education/training methods. In addition, employees were divided among the following five employment categories: management, professional, skilled technician, clerical staff and skilled/unskilled labor.

Respondents indicated that over the next three years new employees will be hired in all areas. Of those with employees classified as "management," approximately 45 percent anticipate hiring additional management staff in the next three years. Even greater percentages (ranging from 65-83%) of the respondents anticipate new hires in the other four employment categories.

While the level of education required varies across hiring categories, employers reported a significant need for new employees with postsecondary preparation. Seventy-two percent of the respondents indicated that new management hires will need an associate's degree or higher. Sixty percent of the employers stated that new professional employees will need a college degree and over half of new technicians will require vocational certificates or college degrees.

Across all employee categories, respondents agreed that during the next three years a significant portion of the workforce, in most cases well over 60 percent, will require training and education in new areas, or the updating of existing skills. Employers indicated that all five categories of employees will require computer training. In addition, management skills programs ranked high for managers, professionals and skilled technicians.

Respondents indicated that they currently offer a wide variety of training and educational programs to their employees. The majority of these programs are provided in-house (31 percent) and by encouraging employees to attend existing programs in the area (22 percent).

Finally, respondents indicated that more visible sites and programs in the three-county study area would be beneficial in meeting their training needs. Particular attention was given to technology/computer training. It is extremely significant that only nine percent of area employers currently have education or training agreements with postsecondary institutions. However, when asked if, in the future, they planned to involve colleges and universities in their training and education programs, nearly 30 percent answered "yes."

3.3 Findings

Patterns which emerged from the qualitative data revealed six primary areas of concern or interest: accessibility, the job-relatedness of programs, the collaboration (partnering) of business, government and education, a visible postsecondary education program presence, the need for increased program information, the need for support services, and delivery system preferences.

Accessibility

Accessibility, in terms of proximity to the point of delivery of education services, is an issue throughout the study area. The relative geographic isolation of those in Island County makes access, particularly access to upper division programs, difficult. Residents of Skagit and Snohomish counties expressed similar concerns. They typically consider the commute, particularly to current four-year and graduate programs, a significant barrier. Older adults, especially, indicated that the commute, along with home and work responsibilities, prohibits participation in existing programs at the University of Washington and Western Washington University. On the other hand, access to community college programs was viewed quite positively.

Consumers were asked how well, overall, the study area needs are now met by the various providers of higher education. On a scale of 1-10 (1 being "not at all" and 10 being "completely"), respondents gave postsecondary providers the following satisfaction ratings expressed as mean scores.

■ Community Colleges	7.2
■ Technical Programs	5.7
■ University Level Programs	5.2
■ Graduate Programs	4.4

While each segment can seek to improve, it is clear that the community college programs and services are more closely meeting the public's needs.

Job-Relatedness

A strong desire for occupational preparation, or job relatedness, was often expressed. Consumers indicated that, at all levels of postsecondary education, they wanted practical programs which provide preparation for employment and upgrading of job skills. In addition, they expect reasonable assurance that, upon program completion, relevant job opportunities will exist.

Partnering

Consumers expressed an expectation for collaboration between and among educational institutions, businesses and municipalities. Partnering is considered essential in terms of economic efficiency, and in maximizing program offerings and delivery system options. One respondent commented that a partnership between business and education could involve technology and teaching, building on the respective resources of the partners involved.

Postsecondary Program Presence

Throughout the study area, respondents indicated a strong desire for a visible postsecondary program presence. Several stated that this could be particularly beneficial in historically blue collar or rural areas, where the tradition of higher education is considered weak. Consumer, community leader, and student respondents indicated that the "lower income level," combined with the historically "small community," "rural" and "blue collar" nature of much of the area, probably contribute to both a lower motivation level and financial ability to attend postsecondary programs. Proximate access to programs would create, it was suggested, an environment where the pursuit of post-high school educational opportunities could become the norm.

Program Information

Another area receiving numerous comments was that of program information. Respondents frequently noted that they, or others, were under- or uninformed regarding available postsecondary options and opportunities. While program information may be widely disseminated, respondents' comments suggest that other forms of publicity may be needed.

Support Services

Agreement was widespread that education programs must be accompanied by an appropriate array of support services. For many, without these services, even the shortest travel distance would not make educational opportunities accessible.

Respondents were asked to rate each of the following support services in terms of its importance to students: academic advising, career counseling, job placement, financial aid, child care, study skills, personal/social counseling, and health services. With few exceptions, the community leaders rated every support service as "important" or "very important." None were rated less than "somewhat important." Likewise, discussion participants at community meetings agreed that all support services must be rated as "important" to "very important."

Overall, the students themselves rated support services as "important" or "very important." There was, however, a somewhat greater spread in their answers than among those of other groups. This variation may, perhaps, be attributed to students rating according to their own specific needs.

Delivery Systems

Community Leaders interviewed overwhelmingly indicated that a classroom setting with a teacher and students would best meet program delivery needs in the study area. As one respondent stated, there is a “need for a group setting and face-to-face [teaching], especially with workforce and developmental needs” programs. Their second highest delivery system rating was the two-way voice/video delivered in a group setting. Essentially, this approach is a technological modification of their first choice.

Consumers generally suggested a blended delivery system, incorporating a facility with “walls and presence” housing a consortium of current higher education providers. Courses would be offered through a combination of “typical” classroom instruction and the newest technologies. It was mentioned that the internet might be more successful with the more “motivated adult learners,” with other technologies, such as two-way voice/video, more effective with less self-directed students.

Currently enrolled students ranked delivery system options in the following order:

1. Classroom setting with a teacher and students
2. Two-way voice/video in a group setting
3. Internet and Two-way voice/video from home/office and Telecourses

3.4 Program Needs

“Demand high for workers in technology,” proclaimed a September 12, 1996, *Seattle Post-Intelligencer* headline. “As ...[Boeing] expands and the aerospace cycle turns skyward, it’s scanning the globe from Auburn to Amsterdam for scientists and engineers to feed its churning labs and factories. And Boeing isn’t alone. The region’s computer companies are also vigorously competing for engineers and programmers in

an increasingly tight labor market.”¹ This news is no surprise to the participants in this study. Community leaders, educators, residents and employers emphasized a growing need for technical programs at all levels of postsecondary education. The current need, such as the article’s report of 1,000 unfilled positions at Microsoft, is not expected to disappear any time soon. “ ‘The thing that concerns us, as a company and an industry,’ said Microsoft’s recruitment director..., ‘is are there enough people coming into the work force who have the talent we need?’ ”²

Almost without exception, respondents’ comments regarding program needs were mentioned in connection with employment opportunities. Consumers, educators and employers alike, desire appropriate postsecondary preparation for successful employment in areas of economic demand following program completion.

Community leaders interviewed indicated that upper division (junior/senior) programs leading to baccalaureate degrees, and vocational training programs, are presently the most needed levels of postsecondary education. They anticipate the need for vocational programs will continue to be strong in the future.

Consumers concurred with community leaders, identifying a need for expanded and more accessible upper division offerings, as well as two-year vocational programs, throughout the study area. The latter included mechanical/technical, computer science, small business management, and early childhood education. At both the bachelor’s and graduate degree levels, technical degrees, such as applied engineering and computer science, were emphasized. Teacher certification programs were often mentioned, and one community meeting attendee suggested offering a business program with a Pacific Rim focus.

¹ T.M. Sell and J. Erickson, “Demand high for workers in technology,” *Seattle Post-Intelligencer*, September 12, 1996, p. 1.

² *Ibid.*, p. 1.

Community leaders interviewed stated that, at present, the greatest program demands are in mechanical/technical (e.g., engineering graphics), applied engineering (e.g., engineering technology), and business. In addition, several included the liberal arts. While a continued need is predicted for those programs, it is anticipated that, in the future, computer science will take the lead.

Consumers surveyed believe that technical, liberal arts, business, health-related, and computer science programs should be available through area postsecondary providers. They also state they plan to enroll in computer science, health related, business, education, social services and engineering programs within the next two years.

Students surveyed reported that education, computer science, and liberal arts programs are most needed at present. They felt that business, professional, mechanical/technical, and social science programs follow in demand. They believe education and, like the community leaders, computer science programs will be most needed in the future.

Three populations require specific comment regarding postsecondary programs; the Tulalip Tribes of Snohomish County, the growing Hispanic population in Skagit County, and the large study area population of Navy personnel and their dependents. The Tulalip Indian Tribes' members expressed a strong desire to maintain their cultural and geographic identities. In that regard, they seek programs which can be delivered on, or near, the Tulalip Indian Reservation. Further, they repeatedly expressed a desire for programs preparing members for economic independence and providing goods and services which they must currently seek elsewhere. Although they want education for job opportunities at their casino, hotel, and future golf course, they also desire programs in small business management preparing them to develop and operate

businesses to provide those goods and services, thus developing their community. Finally, they want basic vocational and technical programs preparing members for a variety of entry level positions where they can achieve economic self-sufficiency.

Skagit County's population has a substantial, and growing, Hispanic component. English is frequently not spoken or read, creating a significant barrier to education and work. Respondents, in community meetings and individual interviews, suggested that ESL (English as a Second Language), paired with practical, job-related content, could provide a less intimidating situation for students as they simultaneously learn English and prepare for a career.

Military personnel, and their dependents, present a unique set of challenges to postsecondary education providers. Their primary concerns regarding postsecondary education are geographic and program accessibility, and program delivery. A typical duty assignment lasts a maximum of three years. Academic programs delivered conventionally do not support program completion. This problem is compounded by the fact that Navy personnel are often sent to sea, unannounced, for weeks at a time, creating yet another challenge in terms of program completion. Program needs for this population were reported greatest at the graduate and professional level, with upper division and developmental programs second in demand.

3.5 Summary

The information gathered in the qualitative analysis has clearly identified the factors which are most important to residents of the study area. These needs and concerns were repeatedly reinforced across time and groups. The concerns are:

- accessibility (geographic, programmatic, and degree level);
- job-related programs tied to current and future economic trends;

- collaboration of business, government and education, with the sharing of complementary resources;
- a visible postsecondary education presence;
- the need for program information;
- the need for support services (academic advising, career counseling, financial aid, job placement, child care, etc.); and
- appropriate delivery systems.

These concerns are quite similar to those identified in recent research conducted by Dr. Louis Fox of the University of Washington. In his August, 1996 report entitled *Connections: University of Washington and Community College Partnerships*, Dr. Fox shares research findings which parallel those of this study. For example, students' comments from Northwest Washington focus groups identified a need for: the dissemination of more complete program information; the support of continued school and business partnerships; and the development of marketable skills through all programs.

The consistency of opinions from the broad cross section of the people contacted and the congruity of those opinions with recent research conducted in separate analyses, support a high degree of confidence in the validity of the qualitative analysis aspects of the study.

4.0 USE OF TECHNOLOGY IN PROGRAM DELIVERY

4.0 USE OF TECHNOLOGY IN PROGRAM DELIVERY

4.1 The Global Context

"Society is undergoing a fundamental transformation from the Industrial Age to the Information Age. This is a global phenomenon with very significant local implications. All people, organizations, societies, and nations are affected, although not at the same pace or to the same degree. Those who realign their practices most effectively to Information Age standards will reap substantial benefits. Those who do not will be replaced or diminished by more nimble competitors."¹

In the past, to obtain a postsecondary education, it was necessary to attend classes in traditional classrooms on the campus of an institution of higher learning. Recognizing that often the existing campus did not adequately serve all those who wanted more education, branch campuses and centers were built to bring the classrooms closer to students. However, in some parts of the country the growth in the number of people seeking a college education increased at such a rate that it became difficult to build enough classrooms to serve the demand. Given this growth and the changes in society described above, many higher education systems are turning to alternative delivery systems.

In keeping with these circumstances, the Washington Legislature directed the Higher Education Coordinating Board to ". . . explore and recommend innovative approaches to providing educational programs. The board shall consider the use of technology and distance education as a means of meeting the higher education needs of . . ." the North Snohomish, Island and Skagit county area.

¹ Dolence, Michael G. and Norris, Donald M., *Transforming Higher Education: A Vision for Learning in the 21st Century*, Society for College and University Planning, 1995.

As a means of assessing the alternative delivery system options available, a review of national programs was conducted. The following are a few of the noteworthy distance education programs that were identified:

- National Technology University, based in Fort Collins, Colorado, was founded in 1984 and offers 13 Master's of Science Degree Programs. These courses are taught by the top faculty of 47 leading engineering schools and other organizations in the nation.
- Coastline Community College, of Orange County, California, produces and offers to students locally, award-winning video-based college courses. In addition, many of these telecourses are distributed to colleges and other organizations all over the world.
- Athabasca University, located in St. Albert, Alberta, offers an MBA program that is available on-line, 24 hours a day--every day. Through digital information systems, the Centre for Innovative Management provides on-line search and exploration systems for new materials and the latest journals. Lessons are delivered in computer disk format to the student's home or work place. Electronic mail allows students to communicate with faculty and other students.
- The State University System of Florida, in a cooperative effort with private industry throughout the state, developed the Florida Engineering Education Delivery System (FEEDS). During academic year 1994-95 the FEEDS member institutions delivered 424 graduate engineering courses with 3,481 students enrolled. In addition, more than 1,000 Master's degrees have been awarded since FEEDS began in 1982.
- TI-IN Network, a division of Westcott Communications, Inc., is a national leader in distance education. The TI-IN Network, which is based in San Antonio, Texas, offers one of the largest selections of live, interactive, televised instruction for students, teachers and school administrators. Although most of its offerings are for the K-12 environment, it does provide advanced language courses and other courses that appeal to adults and postsecondary students.
- Stanford University, Palo Alto, California, supports an On-Line Distance Learning System that makes use of emerging digital video technologies and multimedia networking to deliver live and stored video lectures and seminars to students at their desktop computers over local area and wide area networks.

In fact, distance education has already been effectively employed in Washington in several ways. For example,

- Washington State University offers courses through a variety of technologies, thereby providing access to WSU programs for a significant number of individuals who might not otherwise be able to participate in higher education. Included among those courses is an Extended Degree Program which offers a Bachelor of Arts in Social Sciences that can be completed through video and correspondence courses without coming to campus. WSU also participates, with 11 other universities, in the National Universities Degree Consortium which offers over 1,000 courses, 11 bachelor's degrees, and 24 graduate degrees through distance education; and,
- The Community and Technical Colleges during 1994-95, enrolled a total of 2,342 annualized FTEs in a variety of distance and alternative delivery courses, according to a survey conducted by the State Board for Community and Technical Colleges.

4.2 Program Delivery Alternatives

Educational programs may be delivered in several different ways. The most common delivery method is the traditional classroom containing an instructor and a room full of students. As student populations in higher education institutions have grown, class sizes have also, especially for first and second year undergraduate students. In some large universities there are classes which total 200-400 students or more. Obviously, such class sizes severely limit the amount of interaction students may have with the instructor, both during and outside of class.

Alternative delivery systems, as discussed here, are systems that allow students to take postsecondary courses for credit without attending a regular classroom. There are several such alternatives. The oldest and probably best known is the traditional correspondence course, the course where the primary interaction between student and instructor occurs via the U. S. Mail.

A relatively recent enhancement of the correspondence course is the course which is offered exclusively through the Internet/World Wide Web (WWW). Such a course is conducted in a manner very similar to the correspondence course, except that electronic mail provides to the student a much more rapid and effective means of communicating with the instructor. In addition, it enables the student to perform extensive research using the Internet/WWW communications link.

Another delivery system that has been used for a number of years is instructional video tapes. This technique allows students to check out (or receive via the mail) a video tape and associated materials which they use in their work place or home at their convenience.

More sophisticated delivery systems rely upon the use of live video. The most common live video based system uses two-way audio and one-way video. This approach has the instructor presenting via television to students who may be located in many different sites. Typically the students have audio access to the instructor via telephone during the broadcast of the course. In fact, such courses may have as many as 200 students enrolled, thus recreating the very large class size that some large institutions are now trying to eliminate. However, when electronic mail capabilities are added to this class, the interaction with the instructor becomes much more effective.

The most sophisticated distance education system involves two-way audio and two-way video. This approach stations at least one camera in each classroom participating in the course, thereby allowing the instructor to see as well as hear the students in the remote classes. Many institutions are now using a compressed video approach to two way interactivity. If the capability to interact with the instructor also is available via the Internet, the interactivity between students and instructor is enhanced.

A few additional factors relating to the various types of distance education systems described above should be specified.

- To be effective, courses that are delivered in either live video mode or on video tape must avoid the “talking head,” i.e., a lecture type presentation. If a teaching strategy is not effective in the classroom, moving it to a video medium without any change will not improve its effectiveness.
- Selecting an instructor for a video based class is not a simple matter. In addition to being knowledgeable in the subject matter and being an effective teacher, to be well received in a distance education class, the instructor also must be something of a “performer.”
- Probably the delivery system which offers the greatest potential benefit at the least cost is the Internet and the WWW. Given the exceedingly effective communications capabilities available through the Internet and the vast amount of information accessible via the WWW, current courses using that medium are barely scratching the surface of its potential.

4.3 Primary Candidates for Alternative Forms of Delivery

An increasingly numerous and diverse student clientele is seeking expanded access to education and training involving technology with the expectation they will exit better able to use the technology tools that they are likely to need in their chosen careers. This desire to utilize technology within their educational experiences is *not* the same as a willingness to access their educational experiences via technological or any other alternative forms of delivery. The literature is beginning to reveal that alternate delivery forms involving technology are best paired with older, more experienced students: working adults, parents of young children, adults seeking new skills for changing careers, and a variety of individuals otherwise unable to attend traditional classroom courses for degree or certificate credit, or for personal enrichment. They are often individuals with a high need for autonomy, bound by time and place constraints.

Specifically it appears that women, more than others, in their late twenties and beyond are very likely to consider and be open to various forms of distance learning.

In a national survey conducted in 1995, by the Social and Economic Sciences Research Center at Washington State University, it was found that “. . . fifteen percent of adults who are not retired have already had some kind of experience with distance education (including courses broadcast over television, through video or audio tape, or by correspondence). Seventy-two percent of all adults think that more courses should be developed using satellites, TV and other long distance methods.”²

By the year 2010, the population of the area (when all of Snohomish County is considered) is projected to approach one million. Nearly sixty percent of this number, about 550,000, will be individuals thirty years or more with slightly more women than men in this cohort. Based on the above this implies that there will be a large number of individuals open to distance learning and other alternative forms of delivery which eliminate time and place constraints.

At the same time, the HECB's Master Plan describes the need for the state to serve an additional 84,100 FTE students by the year 2010. This would amount to nearly three new institutions the size of the University of Washington. The likelihood that the state will be able to fund and construct the space to accommodate all of these students by 2010 is open to question. This, along with obvious geographic considerations, leads to the conclusion that alternative forms of access and delivery that do not require facilities may be the only realistic possibility for many potential students. This necessity may pose a conflict with thinking in the study area since the findings of our surveys and interviews indicate a “preference” for more traditional

² *What The Public Wants From Higher Education: Workforce Implications from a 1995 National Survey*, Washington State University, 1995.

delivery (e.g. regular classrooms and interactive-video classrooms) which require space and fixed time arrangements (see Exhibit 4-1).

**EXHIBIT 4-1
DELIVERY SYSTEMS PREFERENCES**

ALTERNATIVE DELIVERY SYSTEMS	RESPONDENTS	
	COMMUNITY LEADER	EMPLOYER
Traditional Classroom	H	M
Correspondence Course	L	L
Internet Course	L	L
Two-Way Interactive Video (Home)	L	M
Two-Way Interactive Video (Classroom)	H	H
Telecourses (e.g., video tapes)	M	L

Degrees of Preference: *H = High*
 M = Medium
 L = Low

The above exhibit reflects the opinions of adult area residents. But what will the students of 2010 expect? Using only today's literature and what today's students and their parents prefer, ignores the thinking of such visionaries as Don Tapscott, author of *Paradigm Shift*. In his book *The Digital Economy*, Tapscott puts one in touch with the thinking of the very young who know no other world than one with technology. The freshmen of 2010 are now three and four years of age. They will have lived through a time of unbelievable submersion in technology; one we can hardly comprehend. They may not only agree to alternative forms of higher education delivery, but expect them.

In the short term then, there will be the willing and reluctant candidates, but in the long term, a generation of futuristic students will exist who will accept what we now call alternative forms of delivery as natural and expected.

4.4 Interactive Networks: Part of The Solution

In 1996, the Washington State Legislature passed E2SSB 6705 creating a "K-20 Network." Briefly described, the K-20 Network will become a network of networks which will provide the citizens of this state a major information highway linking the present and future information networks between and among the public institutions of education. As envisioned, this super network could become a major artery, providing a multitude of alternate forms of instructional delivery for the students of the study area. There already are existing interactive classrooms at Everett Community College and the Educational Service District in Mount Vernon. There are plans to establish other interactive classrooms at Skagit Valley Community College, Friday Harbor, and Oak Harbor. Presently, the public four-year colleges and universities have identified over one hundred programs and/or courses which they are considering to offer over the K-20 Network. The community colleges are considering what offerings they would provide via this network.

The Internet is also a viable form of alternative delivery and interactivity. Numerous courses and programs are now available, from within and outside Washington state, to anyone who has access to the Internet. The K-20 Network plan assumes that eventually all who have access to the K-20 Network will also have access to the Internet.

Another important interactive network which is being developed specifically within the study area is the SnoNet. Now funded by private sector organizations, the Snohomish County EDC and the Kellogg Foundation, this network eventually will have the potential to facilitate electronic connectivity to various public institutions for information and services, and could possibly supplement the distance education efforts

of the K-20 educational institutions within the region. Initial plans for the SnoNet also include investigation of how to provide educational services electronically to the Tulalip Tribe, and to remote rural and under served communities of the region.

These networks will provide alternate forms of delivery which will diminish time and place constraints for students and reduce construction costs for the state.

4.5 Recommendations Relating to Technology

The following recommendations are offered in the context of the organizational alternatives discussed in Chapter 5 and, while general in application, are offered in the context of the study area.

1. Expand upon the use of Internet and the World Wide Web (WWW) to deliver courses.

There are several reasons for pursuing this avenue. First, the cost to implement such courses is less than for other forms of distance education. One does not need to arrange for cable or satellite availability, or to place specialized equipment in locations where students can use it. Internet/WWW access is available to many people in their homes or work places today. For those who do not have access at home or work and do not have the resources to acquire that access, numerous locations are already available. For example, many public schools and public libraries have the necessary capabilities and could be locations where low income residents could gain the access they need to participate in one or more courses. In locations where there is a high number of prospective students, community learning centers could be established. In other parts of the country such centers are being created in senior citizen centers, boys/girls clubs, churches and other such sites.

A second reason for following this approach is the speed with which it can become a reality. Because there already are many places where students can obtain the access they need, it would be only a few weeks between the time a course is developed and the time it is offered.

A third reason for using such an approach is the communications options that exist over the Internet. Electronic mail is a way for students to correspond with their instructor and with other students. Moreover, they also can communicate with experts in areas related to their courses as a means of enhancing the learning experiences. In addition, there is a vast amount of information available via the WWW, which makes it an exceptional resource for students in almost any course of study.

Considerations relating to this approach include:

- Some have expressed reservations about such an approach because they believe the students are left on their own without the guiding hand of an instructor. In fact, such courses require an instructor to provide the leadership necessary to make the experience worthwhile for the students and to achieve the objectives of the course. The difference is that most communications are accomplished electronically, rather than directly.
 - Some courses might benefit from an additional communications link such as an 800 number for communications with the instructor or graduate assistants.
 - Support personnel should be available to provide assistance to students in the use of their computers and/or communications systems. This resource is probably most beneficial if such support people are available locally or via an 800 number.
2. **As appropriate, multiple technologies should be employed in distance education courses, e.g., a two-way video course can be enhanced significantly if the resources of the Internet also are included.**

This strategy should be followed because multiple technologies are more motivational for many students; learning options are enhanced when multiple

technologies are employed; and students of the future will expect to have access to extensive technology resources.

3. **Area institutions, including the organizational alternative selected to respond to upper division and graduate needs, should assess the needs of the private sector and design (with their involvement) training/staff development programs to be delivered remotely.**

Continuing education for professionals is particularly well suited for remote delivery. For example, large numbers of teachers, engineers, accountants, architects and others annually are required to update their credentials. If such professionals could fulfill their educational requirements without leaving their place of business, they would consider that a very attractive option.

4. **Area program planning should provide for ways to implement the concept that has been discussed by some institutions recently in which some courses are offered by one institution and delivered to students anywhere in the state via the K-20 Network.**

This strategy would present some very attractive cost advantages to the state. A process by which students elect the institution from which they receive the credit should be arranged to make this most effective. In addition, courses need to be offered by the institutions that specialize in the specific subject areas.

It should be borne in mind that this approach could result in some very large classes, requiring the instructors to have graduate student support/assistance when the class size exceeded an agreed upon number of students.

5. **The response to area needs should include establishment of centers for learning in communities where there is a large number of disadvantaged students or that are far from area population centers.**

Many people are unable to afford technology resources that allow them to access the Internet or to perform other routine information management functions. A large

number of these people would use a central location near their home as a point of contact. Efforts should continue to be made to enable students to utilize technology at home, however, alternative locations must be provided to assure that some are not left out. Sites could be a local school, community center, library or a church. Wherever access is provided, support personnel need to be available to assist users with problems.

- 6. Area institutions should continue to expand the number and type of courses offered in a distance education format. All courses should be analyzed to see if they could effectively be delivered to students at sites other than the campus where the course originates.**

Given the changes occurring in society, many people will need new skills to prepare them for new careers (some have predicted that in the future, workers may change careers as many as six times during their working years). Many of these people will find it difficult to come to classes at traditional times, preferring instead to take the courses (for credit) from home in the evenings or on weekends. Some may be able to take such courses while at work. Equally rigorous thought will need to be devoted to evaluation, assessment, and award of credit or certification of competencies.

- 7. As consideration is given to moving courses into a telecommunications format, ensure that all such actions are done so that they fit within the parameters of the K-20 Network.**

The legislature has established the K-20 Network as the direction the State of Washington will take as it employs distance education technologies. The citizens of Washington will benefit most if all educational entities embrace this network and build upon it. At the same time, the state needs to address such issues as student financial

aid for technology enrollments to help with costs of participation and associated logistical problems for distance learners.

8. **Consideration should be given to setting percentage targets that are to be met via technological methods that avoid time, place constraints for students and minimizes facility requirements.**

The state has invested large amounts of money into the development of networks, distance learning and other technologies and may continue to do so. Some of this development will improve the quality and relevance of education, as well as increase retention and completion rates. On the other hand, some of the justification for these technology moneys has been based on expanded access via technology.

By the year 2020 the study area will have realized an enrollment growth of approximately 10,000 FTE students. The HECB, in consultation with the concerned institutions, should set percentage targets for each of these levels which are to be met, over time, utilizing technology to provide students flexibility concerning time and place and minimize capital construction. It is recommended that the following be considered for initial discussion.

**EXHIBIT 4-2
MINIMUM PERCENTAGE TARGETS
TO BE SERVED ELECTRONICALLY BY
PROGRAM LEVEL WITHIN THE STUDY AREA**

YEAR	LD	UD	GRADUATE
2000	5%	5%	2%
2005	10%	10%	5%
2010	20%	15%	10%
2020	25%	20%	15%

When these percentage factors are applied to the projected enrollments as of 2020, it is estimated that approximately 2,125 of the 10,000 additional FTE students will be served through distance education technologies.

***5.0 ORGANIZATIONAL
ALTERNATIVES AND
EVALUATION CRITERIA***

5.0 ORGANIZATIONAL ALTERNATIVES AND EVALUATION CRITERIA

Organizational forms in American higher education have evolved as the sectors of the population that consider higher education feasible have changed and expanded. Whereas at the end of the last century, American higher education was characterized by research universities, private liberal arts colleges, and normal schools, at the end of the present century, the variety of organization forms is boundless.

The evolutionary process has not been steady; rather, it has been more in the form of a series of lurches, occurring in conjunction with other social responses to the demands of epochal events. In this state, for example, the Post-World War Two era and the GI Bill saw the transformation of Washington's normal schools (Central, Eastern, and Western) into colleges of education and then into liberal arts colleges, regional state colleges, and, ultimately, into their present comprehensive university form. During the late-1960s, in response to the anticipated needs of the Baby Boom population, Washington's system of comprehensive community colleges was created. These colleges were themselves an innovative form, combining the best features of the junior college and the vocational-technical institute with a commitment to community services programming.

Also during these years, The Evergreen State College, first conceived as a state college to meet burgeoning population's needs for services in southwestern Washington, made its debut as a non-traditional higher education institution. Evergreen is a particularly interesting example. Its non-traditional emphasis was *programmatic* – educational services provided in an interdisciplinary manner without particular regard to seat-time, instructional periods, and class changes. It also was, however, a non-traditional approach taken in a

traditional setting – Evergreen’s facilities are conventional, and its campus looks much like other campuses created about this time.

The next major stage in the evolutionary process began in the 1980s. This time in Washington it was in the direction of non-traditional *organizational* forms in response to urban population growth. It was represented by the appearance of upper-level university branch campuses, community college and comprehensive university satellites, and the conversion of vocational-technical institutes into technical colleges. Thus, whereas Evergreen focused on non-traditional programming in a traditional campus setting, the present patterns at least partially reverse this, stressing interdisciplinary approaches and conventional programs offered in unconventional settings.

It is worth noting that the conventional institutional forms still are the most typical. The institutional classifications of the Carnegie Commission and the Academic for Education Development continue to apply more or less accurately to most of the institutions in Washington and the rest of the country. The Carnegie Commission classifies institutions of higher learning as Research Universities I; Research Universities II; Doctoral-Granting I; Doctoral-Granting II; Comprehensive I; Comprehensive II; Liberal Arts I; Liberal Arts II; and Community College. The AED's typology is roughly similar. In this case there are seven classifications: “Leading Research/Doctoral-Granting Institutions”; “Other Research/Doctoral-Granting Institutions”; “Comprehensive Colleges and Universities”; “General Baccalaureate Colleges”; “Two-Year Colleges”; and “Separate Specialized Professional Schools.”

At the same time, other forms that do not fit any of these classifications are appearing with considerable frequency. These alternatives include university centers, upper-level universities, baccalaureate degrees in less than fully redesignated community colleges, urban universities that extend the values of community college programming to

the baccalaureate level, inter-institutional consortia, etc. There are others. An illustrative but far from complete listing would include at least the following:

- Arizona State University, West (branch campus)
- Auraria Center, Denver (inter-institutional consortium)
- Northern Arizona University Center at Yuma College (2+2)
- University of Arizona Center at Sierra Vista (2+2+telecommunications)
- North San Diego Campus of San Diego State University (branch campus)
- College of the Desert Center of San Bernadino State (2+2)
- California's Salinas Center of San Jose State University (university center with telecommunications)
- Callexico Center of California State University (off-campus center)
- Central Oregon Consortium (Bend) (2+2)
- The IUPUI Program, Indianapolis (urban center consortium)
- The South Central Indiana Education Alliance (inter-institutional consortium)
- Oregon Institute of Technology Center/Clackamas CC (tech center)
- University of Washington--Bothell (upper-division/graduate branch with co-located Cascadia Community College)
- Washington State University--Vancouver/Tri-Cities/Spokane (upper-division/graduate branch)
- South Seattle Community College Center of Central Washington University (2+2)
- Joint Center for Higher Education and SIRTl, Spokane (public-private higher education/research complex)
- Greenville South Carolina Higher Education Center (public-private consortium)
- California State University at Monterey Bay (four-year + telecommunications)
- University of Houston/ClearLake (branch campus)
- Utah Valley State College (community college as an urban university)
- Western Governors' University (virtual university)

Several of these might serve as models for the North Snohomish, Island, and Skagit County region, but a few thoughts should accompany their consideration. First, each of these alternatives was tailored to the specific needs (social and political) of the area it was designed to serve, and no single form is likely to prove amenable to facile transplantation to

another area or setting. Second, each offers advantages and disadvantages, and these need to be identified and understood. Third, most will prove transitory, in a few cases deliberately so, and many are likely to evolve to more customary forms with time. The magnetism of precedent is strong, and it is no accident that conventional forms continue to typify higher education.

The variety of alternative organization forms is extensive, but for the purposes of this report three general types – *multi-institutional formations (local higher education brokerage centers, extension upper-division programs in community colleges, inter-institutional consortia); branch campuses (upper-level universities); and single institution alternatives (four-year institution with telecommunications, urban universities qua four-year community colleges)* – comprise the forms with the greatest potential for the study area. The examples of each form that were considered in the development of this report were the following:

1. Multi-Institutional Alternatives:

a) Local Higher Education Brokerage Centers

Montana's Higher Education Centers

b) Extension Upper-Division Programs in Community Colleges

Utah's University Centers

c) Site-Centered Multi Inter-Institutional Consortia

Primary Example: *South Carolina's Greenville-Spartenburg Higher Education Center*

Other Examples: IUPUI program (Indianapolis, Indiana), the South Central Indiana Educational Alliance, the Auraria (Denver) Center, and the Joint Center for Higher Education (JCHE) in Spokane.

d) Upper-Level University Campuses

Primary Example: Washington's university branch campuses

Other Examples: California (Contra Costa, North San Diego and Ventura), Arizona State University West (ASUW)

2. Single Institution Alternatives

a) Four-Year w/Telecommunications

California State University at Monterey Bay

b) Baccalaureate-Granting Community College (Urban University)

Utah Valley State College

3. "Virtual" University

Western Governors' University

In the development of this report each of these organizational examples was examined in terms of its:

- governance structure;
- service population emphasis;
- level and range of programs;
- service delivery pattern/potential, including use of technology;
- hours of operation;
- articulation aspects;
- admission standards;
- community involvement;
- financing of operating budget;
- facility features;
- financing of capital facilities;
- extent of support services provided;
- accessibility of student financial assistance;
- price profile relative to other types;
- competitiveness/cooperativeness with existing services/institutions;
- ongoing needs assessment/planning capacity; and
- adaptivity to changing circumstances.

Each also was examined in the light of the evaluation criteria deemed most important by the Project Coordination Team and the Project Advisory Committee. The results of that examination are described later in this chapter (see Exhibit 5-1), following a brief discussion of each of the primary examples of alternative organization forms.

5.1 Multi-Institution Alternatives

A number of multi-institutional arrangements and configurations have formed in many states to address educational needs. These include the higher education centers in Montana; the University Centers in Utah; and various inter-institutional consortia, such as the Greenville (South Carolina) Higher Education Center; the IUPUI program (Indianapolis, Indiana); the South Central Indiana Educational Alliance; the Auraria (Denver) Center; and the Joint Center for Higher Education (JCHE) in Spokane. There are others, but these are generally representative.

The examples considered here begin modestly and proceed to more elaborate organizations.

5.1.1 Montana's Higher Education Centers (Local Higher Education Brokerage Centers)

Montana's higher education efforts focus on its four-year institutions. In the public sector there are six four-year institutions, but only three community colleges. Recently, the state's five vocational-technical institutes were reconstituted as technical colleges and added to the state university system. Accordingly, the state's participation rate and degree conferral patterns are influenced by the four-year sector, and Montana is in the top decile in four-year participation and at the bottom of the national rankings in two-year effort.

Consequently, the emphases have been on the high school to college transition and attendance on a residence campus; until recently, comparatively little attention was paid to needs of place-bound adults. A call for Area Higher Education Centers as a response to such needs came from a Governor's Commission formed in 1989 to study the future of Montana higher education. In its report, the "Montana Education Commission for the Nineties and Beyond" recommended creation of a system of higher education centers in the

state's urban areas, with the goal of assuring that every community would be located within easy commuting distance.

Each center would be headquartered in an existing four- or two-year institution. The centers were not to be colleges; rather, they were to be delivery systems that would broker educational services through contracts with public and private institutions. They would arrange for the provision of such services in their respective districts in existing community facilities (institutions of higher learning, schools, libraries, etc.), be responsible for identifying and responding to educational needs, and be able to import programs either through the university system or via telecommunications and other technologies. Through their brokering efforts, they would regularly provide academic transfer and vocational programs and adult education and community services.

Funding for higher education in Montana has been limited, however, and the Montana Board of Regents authorized the creation of only two such centers, in Helena and Great Falls, as part of its 1994 university system restructuring effort. According to the Board, these centers are to "maximize the availability of educational opportunities for the state's citizens in a manner which will enhance quality while minimizing unnecessary duplication of effort and harmful competition." Each location (center) involves the participation of a steering committee consisting of the two university (sub-) system presidents, the president of the proximate private college, and the Commissioner of Higher Education.

These higher education centers represent products of fiscal and political compromise. In more prosperous times the solution probably would have been another four-year institution, although demographics and funding levels have not been particularly kind to the existing colleges and universities. In any case, neither center has yet attained fruition, and future prospects are uncertain.

5.1.2 Utah's University Centers (Upper-Division Programs Offered by Four-Year Institutions in Community Colleges)

University centers as envisioned in the State of Utah were posited as a cost-effective means of providing baccalaureate-level programs outside of university campuses. University center programs – individual baccalaureate programs provided by universities in community college facilities -- are intended to serve students who, because of work, family, economic, or other factors, are unable to relocate to a residential campus.

The process leading to the establishment of a center and the offering of programs begins with identification of a need for a given upper-division program. A university (the one with primary responsibilities for the service area in which the need is located, if it has the appropriate program) is contacted by a local community college and invited to provide the program in the community college facilities.

Obligations are divided among the program university and the host institution. The program university retains responsibility for offering courses, hiring faculty, evaluating content and quality, and awarding credits and degrees. The two institutions share responsibility for advising, administration, publicity, library, instructional support, and financial aid. Tuition income and FTE budget allocation go to the program university.

The concept is still new; thus, there has not been much experience with it in Utah. Based on site interviews, many consider the centers as something less than equivalent to an educational experience on a conventional four-year institution campus, and some are pessimistic about the universities' ability to get their faculty to participate in programs in the rural areas. The University of Utah, for example, has not participated, although the provost reported that promising discussions for offering a program on a community college campus were underway.

Finally, there is a belief that the main strength of the centers is that they are inexpensive. This reflects a misconception and a major problem with the program. In their concept paper, the Regents state that "While students should not expect to have the same campus experience as those attending a university for their undergraduate education, the quality of instruction, accreditation standards, and value of degrees offered at a University Center will be equal to those provided on the main campus of the sponsoring institution." Parity cannot be accomplished without comparable funding, and that is difficult to accomplish in a perceived atmosphere of insufficient resources for main campus operations.

The efficacy of the university center approach lies in its potential to bring limited numbers of targeted upper-division programs to outlying areas for limited periods of time (i.e., until local demands are exhausted) to address "spot needs." But the concept has not yet attained take-off velocity, and, in any case, it is difficult to envision the university center approach as a permanent solution to persistent and widespread upper-division needs.

5.2 Site-Centered Multi-University Consortia

Inter-university consortium solutions often are conceived as temporary arrangements aimed at meeting limited program needs, but they may take a more permanent form. Such is the case with Indiana's IUPUI program, which was formed in 1969 when Indiana and Purdue Universities merged their regional campuses into one urban center in Indianapolis. The IUPUI program presently enrolls 28,000 students and offers programs in 145 areas, including many professional fields. Washington's Joint Center for Higher Education in Spokane also is a consortium that displays signs of permanence (e.g., the Riverpoint Campus).

More often, however, inter-institutional consortia are proposed as imaginative compromise solutions to regional needs. The Greenville Higher Education Center in South Carolina is a good example. The GHEC is a consortium of institutions – “Seven colleges and universities under one roof.” Clemson University, Furman University, Greenville Technical College, the Medical University of South Carolina, South Carolina State College, the University of South Carolina at Columbia, and the University of South Carolina at Spartanburg participate – serving the Greenville-Spartanburg area.

The Center offers year-round programming at both the undergraduate and graduate levels. It maintains a physical presence in the form of a 60,000 square foot area in a renovated 100,000 square foot facility (the remaining space is reserved for expansion), “featuring state-of-the-art classrooms, computer laboratories, study areas, conference rooms, counseling areas, student commons, exhibit hall, and televised study classrooms.” Most programming occurs during the evening hours. GHEC’s present catalog identifies “classroom” courses comprising approximately 550 credits, of which 499 (more than 90 percent) are available exclusively during the evening hours (arrangements for evening registration and other support services also are provided to students). Instruction via audio cassette, telecourses, and other media also is available through the Center. Fourteen months after its creation, the Center was serving more than 1,000 students a term.

The participating institutions share the costs of operating the Center under the guidance of the South Carolina Commission on Higher Education. They also provide faculty and collaborate through a board of directors to assess needs and plan new programs. The board of directors is composed of the CEO and one academic officer designated by the CEO of each institution holding regular membership in the consortium. Greenville Tech provides facilities, classrooms, and laboratory space for some courses.

Clemson serves as the fiscal agent for staffing and operations. Furman's library is open to GHEC students although it teaches its courses to GHEC students on its own campus.

The consortium also utilizes a community advisory council composed of citizens of Greenville County and its surrounding areas, appointed by the board of directors. According to the bylaws, potential members of the advisory council are to be actively solicited by the chairperson from members of the current advisory council and other members of the board of directors. Members serve two year terms, renewable to a total of four consecutive years. The bylaws specify that potential advisory committee members must be people with "a high level of credibility and influence in the area," possess strong ties to the business, industrial, or professional communities of the areas, and display a continuing interest in higher education and an awareness of the missions and operations of the institutions, although members may not be employees of any member institution.¹

The Greenville Center describes itself as a "state-of-the-art teaching and learning center designed to serve the needs of working adults who want to pursue degrees without leaving Greenville County."

Graduate programs leading to master's degrees (Professional Accountancy, Human Resources Development, Nursing, Business Administration, Public Administration, Education, Health Services Administration, Journalism, Engineering, and Library and Information Science) are offered by one or another of the participating institutions, as are baccalaureate degrees (General Studies, Health Sciences, Electrical Engineering Technology, Nursing, and Interdisciplinary Studies). Local government and business organizations are involved in the program planning process.

¹ The South Central Indiana Education Alliance also is governed by a Board of Directors ("Alliance") composed of participating institution representatives; Indiana State University is the site management and fiscal agent. Community representatives hold three of the 14 seats on the Alliance Working group and are represented on all task groups.

According to the Center's director, the arrangement has achieved a fair degree of acceptability among the participating institutions, and it has acquired substantial community support. He also noted that the model has been successfully exported to other states, most notably Maryland. At the time of this conversation, the Center also had been cloned at Hilton Head.

5.3 Branch Campuses

Different forms of branch campuses are in operation. An authority on the subject, Dr. Donald Hanna of Washington State University, has identified four basic branch campus types: two-year, four-year and limited graduate, upper-level and graduate, and graduate only.

A university branch in the conventional parlance, and as the term is used here, involves a physical presence (i.e., capital facility) in a locality. If a community college also is present in the community, the branch's program focus (if it is an upper-level university) will be initially and almost exclusively on upper-division and graduate-level (usually master's) programs, ideally, those suited to the educational needs of place-bound working adults and the economic development needs of the community.

A few states have seized the branch campus option as the solution to their place-bound student needs, among them are California (e.g., Contra Costa, North San Diego – now a four-year institution in the state university system – and Ventura), Washington, and Arizona. In two of the cases (Washington and Arizona), the responsibility for branch campus operations is assigned to the research universities.

5.3.1 Branches as Upper-Level Universities

All of these states opted for the third form of Dr. Hanna's classification, upper-level university (ULU). The University of Washington used the Arizona State University West (ASUW) campus as a model. ASUW was modeled, in turn, on the Clear Lake campus of the University of Houston.

Several institutions in other states began as ULUs and evolved into full-service institutions. As noted previously, North San Diego State is one. The University of Colorado at Denver is another. Florida International University and the University of North Florida at Jacksonville are two others. The University of Michigan at Dearborn also is a former ULU; it added lower division courses about ten years after its initiation.

Several years ago, the Arizona Board of Regents offered this observation on ULUs:

"The upper-level institution has been described by a number of observers as an inherently unstable entity. It receives pressures to expand either upward, by adding graduate and professional programs on top of the junior and senior years, or downward, by adding freshman and sophomore classes."

There also are special limitations on these arrangements. The program must build on a strong community college effort if the upper-level concept is to succeed. Comparatively high unit costs also may be expected. Part of this relates to the fact that a low overall institutional unit cost average cannot be obtained because large lower-division classes to offset smaller ones at the upper-division conceptually are not permissible. Another factor is the relatively low credit hour loads students attending such institutions may carry. Advantages include the presence of a parent institution throughout the incubation period; the cachet that might be lent by the parent institution's name (e.g., UW-Tacoma; WSU-Vancouver); a clear physical presence; some claim in parent university plans and resources; and the instant validity that is extended to degrees and credentials.

The five branch campuses in Washington were established as a result of the HECB's 1987 Master Plan. Responsibility for the two Puget Sound branches is assigned to the University of Washington; responsibility for the remaining three is assigned to Washington State University.

In the beginning there were fears of an incongruity in the assignment of branch campus responsibility to a research university. Branch campuses tend to be located in expanding urban centers (population growth and density often are the prime elements in the case for need); thus, feelings were that the appropriate response should be an urban institution with a strong teaching culture, applied programs, and community service orientation. This is a bit different from the strengths of typical resident research universities.

In the case of Washington, the sponsoring universities addressed the institutional type issue (i.e., a Research University I operating a Comprehensive University I branch) by stating that the branch campus would be a different type of institution than the University and would utilize different peer institutions for comparison purposes. The peer group for the branch would be on the order of the peer institutions utilized by the state's regional (Comprehensive I) universities. Thus, at the University of Washington, the main campus utilizes a peer group composed of *Research Universities I* for salary and support comparison purposes, and the Tacoma branch campus utilizes a peer group composed of *Comprehensive I (teaching)* institutions for these purposes.

5.4 Single Institution Alternatives

The historical, and perhaps most spontaneous, approach to unmet educational needs is through the creation of a new institution. As a general rule, states seem to be shying away from this solution, at least directly, as intimidating cost scenarios force them to focus on other organizational alternatives (university centers, branch campuses, etc.), and

in some cases backing into more conventional forms over time. The last new public four-year institution established in Washington was The Evergreen State College, in 1969. Even in states such as California, where population pressures and community interests maintain rather constant pressures for new institutions, they are met with equally persistent insistence on new ways of doing things. The California State University at Monterey Bay, which was bucked to the head of the queue by a gift to the state of a large portion of Fort Ord, was acceptable only if accompanied with the promise of substantive innovation. CSUMB is developing as a residential campus stressing innovative programming and emphasizing technological applications to the instructional process.

5.4.1 California State University at Monterey Bay
(Four-year with Telecommunications)

In 1990, when the U.S. Army decided to vacate most of Fort Ord, a moderately-sized base situated on the Monterey Peninsula about six miles north of Monterey, the conversion plan emphasized high tech industry, research, and education as preferred civilian uses. In a comparatively brief period, an educational complex composed of a university campus of California State University [CSU], a research center of the University of California [UC], and cooperative agreements and understandings with various regional community colleges and private institutions formed as the key elements of the converted base's future. A residential CSU campus comprising 1,300 acres and featuring technologically-advanced programming – a “21st Century University” – formed as the centerpiece.

The vision statement adopted for the new campus calls upon it to be a prototypical university for the next century; to advance innovative approaches to traditional educational problems; to attract a prestigious faculty; to provide a model for the way

education must adjust to meet the challenges of a new century; to develop academic programs that transcend traditional walls and shape the institution; and to create an institution of distinction in its commitment to teaching, research, and public service.

The curriculum is to be organized around academic clusters rather than departments. The clusters emphasize the sciences (especially marine, atmospheric, and environmental); the visual and performing arts; languages, cultures, and international studies; futuristic education; and international business.

In this respect, much of the academic planning is following the interdisciplinary model perhaps pioneered by The Evergreen State College. The specialty cluster concept serves as the hub of the approach. Specific programs of study are to emerge from the multidisciplinary fields they comprised, with the objective of blending "liberal learning with professional and technical preparation."

The application of electronic technologies is to be an important feature. The use of technology at CSUMB will be based on a plan that stresses regional inter-institutional cooperation, network data access, library networking, university-community interaction, telecommunications, etc. The essential feature of the new university's program is the use of technology to pipe onto the campus classes and lectures from institutions throughout the CSU system, and from other institutions around the country, in effect reversing the distance education concept. That is, instead of electronically transmitting instructional services to a dispersed population, students would be brought to the campus in a residential institution setting, and utilize the media there. A distance education dimension also is to occur as the University telecasts or otherwise electronically transmits programs outward.

CSUMB opened its doors to students in September, 1995. The campus is experiencing the usual sorts of start-up problems with not enough money to do things as

rapidly as initially hoped. But both the institutional and system administrations appear to remain dedicated to the concept.

5.4.2 Conversion of Community Colleges into Baccalaureate-Granting Institutions (Utah Valley State College – An Urban University)

An alternative discussed in some states, perhaps most recently by Governor Roy Romer of Colorado, consists of the conversion of community colleges into four-year institutions. It is not a new phenomenon. In Utah, for example, both Weber State and Southern Utah Universities metamorphosed from junior to four-year colleges in the 1960s.

The Weber State and Southern Utah experiences notwithstanding, examples of the transformation of community colleges into four-year institutions are fairly rare in American higher education. In Washington, such transformations are prohibited in the community college enabling statute. And, in any case, the community college movement in the United States is well-established, and these institutions have become an important part of most states' responses to higher education needs with cultures, missions, and histories of their own.

Where demands for community college conversion occur, they tend to be couched in terms of place-bound student and community economic development needs. Such needs logically lead to a type of institution that represents an extension of the community college concept rather than a model that emulates the traditional four-year university.

Kevin Dougherty, who supports community college conversion into four-year institutions, suggests that:

"By becoming four-year colleges, community colleges make it very easy for students to move between divisions, taking their credits and financial aid with them. Vocational-education courses are more likely to be creditable toward a baccalaureate degree. Lower-division academic preparation is more attuned to the demands of upper-division courses because faculty in the two divisions are in closer communication, and in

most cases are one and the same. And students are better integrated socially, since they are continuing in the same institution."

Impressions similar to some of these seem to underlie the Utah decision to convert Utah Valley Community College into a new type of four-year institution -- in effect, an urban university that would carry the values of the community college to the upper-division level.

The notion of a four-year institution that would represent an extension of the community college concept may be attracting considerable attention. One writer, Alan Gross, uses the perhaps unfortunate expression, "Communiversity" to describe what he has in mind -- a four-year institution modeled on the community college. In his words, by virtue of this concept, "A community college would achieve four-year capacity in a manner compatible with its present two-year mission. Such an institution would:

1. Be within commuting distance of the people it means to serve;
2. Run a full program from early morning to late evening;
3. Charge low tuition;
4. Give equal standing to both 'academic' and 'non-academic' credit."

The importance of Gross' concept lies in its stress on the extension of the community college role to include community educational needs at the upper-division level.

It may have been an accident of history that the comprehensive community college evolved from the junior college. Whether or not, an effect has been the conventional two-year qualification. But there is no readily apparent reason why the conception of responsiveness to student and community needs could not extend to the assignment of responsibilities to the community college for the identification of needs and the offering of programs, on an as-needed basis, at the upper-division as well.

Thus, the decision to convert Utah Valley Community College (UVCC) into Utah Valley State College (UVSC) was accompanied by a specific admonition that it not be

patterned after Utah's other four-year institutions. Rather, it would be an urban institution with specific services directed to and congruent with the needs of the metropolitan area it serves (Provo, Utah). The teaching mission would be emphasized, and commuting and night school students would be served through afternoon and evening programming. The institution would achieve four-year capacity in a manner compatible with its two-year mission: by extending the community college concept to the upper-division. It would provide educational services within commuting distance of the people it was intending to serve (it would not be a residential campus), operate a full program from morning to late evening, charge lower tuition (at least for the community college component), and give equal standing to academic and non-academic credits.

Most of all, the concept would entail the undiminished continuation of the institution's lower-division academic and technical programs: these would not be reduced or superseded. Upper-division programs would build upon them, be limited in number, and be suited to local needs. Particular attention would be devoted to upper-division programs that articulated with lower-division occupational and technical programs and led to a Bachelor of Technology degree. Graduate programs would be offered on an as-needed basis through arrangements with other universities.

The Board of Regents liked the idea, and UVCC was re-designated accordingly. Academic planning proceeded along the lines recommended, and the institution is in full operation in Provo.

5.4.3 Western Governors' University (A Virtual University)

References to the application of electronic technologies to education are ubiquitous. All of the organizational forms described above can be enhanced through the use of technology. It seems clear that such technologies would allow an expansion of capacity

that would greatly increase the potential for sustained service both to remote and to campus audiences. But many believe technologies are not means onto themselves; for the foreseeable future, their greatest potential resides in their capability to augment rather than displace other forms.

An appreciation of this is evident in what is perhaps the most concerted effort to apply technology systematically: Western Governors' University.

Western Governors' University (WGU) is not yet a reality, although an important step in that direction occurred in 1996 as the governors of 13 of the 18 western states signed a Memorandum of Understanding (MOU). Governor Lowery signed the MOU for Washington, contingent on legislative appropriation. The MOU calls for further efforts to implement the WGU including establishing a steering committee, providing seed funding, and establishing at least one center in each state.

Thus, WGU is still essentially a "paper" concept; the details on its structure and functions as a regional virtual university are not yet resolved. To guide the design process, the governors adopted criteria intended to assure that it would be market oriented, independent, client-centered, degree-granting, accredited, competency-based, non-teaching (i.e., not providing instruction directly but drawing on existing resources), high quality, cost effective, regional, and quickly initiated (functioning and delivering benefits by summer, 1997.)

The WGU approach is suggested by the main purposes envisioned for it: creating impetus to removing the barriers to the free-flow of high quality educational materials and learning across institutional, state, and other boundaries; creating a competency-based approach to assessing and certifying learning; stimulating the creation of a network of local centers to connect providers and users and furnish support services; and brokering the distribution of existing educational services.

The WGU is not yet at a point in its development where it can be assessed as a possible alternative to a region's higher education needs. A number of western state governors are committed to the concept, and its establishment will be worth watching.

Application of the Evaluation Criteria to the Alternative Organizational Forms

These appear to represent the most appropriate alternatives. As noted elsewhere, the members of the PCT and PAG, separately considered a number of evaluation criteria. Of the 26 that were identified and reviewed, each group named its top ten. When the two lists were combined, consensus was evident on 15. These are:

[The preferred model]

- Is programmatically responsive to area needs
- Is financially accessible to most students/families
- Promotes the accomplishment of State, HECB, and SBCTC long-range participation rate goals
- Offers degree and certificate programs that accord with educational and economic needs that are of primary importance to the region
- Results in a net increase in the breadth of postsecondary education degrees, programs, and opportunities in the study area
- Requires the least possible new facilities to meet needs
- Requires capital costs that are at or less than existing system averages
- Facilitates student progression through articulation
- Provides educational and support services of high quality
- Promotes continuity and predictability
- Includes a facility with a clear institutional presence
- Has a clear institutional focus and mission
- Possesses sufficient flexibility to adapt to changing circumstances

- Builds upon existing postsecondary education institution missions and programs in the study area
- Assures that programs and services are available at convenient times, e.g., nights and weekends

The evaluation criteria scores of each of the alternatives are displayed on Exhibit 5-1 on the following page. The alternatives receiving the highest overall scores (highest possible score = 75) were:

Consortium Higher Education Center (67)

Urban University (63)

Upper-Level Branch (59)

EXHIBIT 5-1: APPLICATION OF EVALUATION CRITERIA TO ALTERNATIVES (Scale: 1= low; 5 = high)							
EVALUATION CRITERIA	ORGANIZATIONAL ALTERNATIVES						
	Broker	UD@CC	CHEC	ULB	4yr w/TECH	Urban U	VU
Programmatically Responsive	1	2	5	3	2	4	4
Financially Accessible	3	3	5	4	2	5	5
Accomplishes Partic. Rate Goals	1	1	4	4	2	4	1
Programs Meet Educ. & Econ. Needs	2	2	5	3	3	4	3
Expands Area Program Inventory	3	3	5	4	3	4	3
Least Possible New Facilities	5	5	4	3	2	4	5
Capital Costs at or less than Avg.	5	5	4	3	2	4	5
Student Progression thru Articulation	5	5	5	5	3	5	4
High Quality Educ. & Support Services	2	2	4	4	5	5	1
Continuity & Predictability	1	1	4	5	4	4	1
Facility w/a Clear Institutional Presence	1	1	4	5	4	4	1
Clear Institutional Focus & Mission	1	1	4	5	3	4	1
Flexibility and Adaptivity	3	3	4	4	4	4	5
Builds on Existing Area Programs	4	4	5	4	3	4	4
Available at Convenient Times	4	4	5	3	2	4	5
Total Scores (Possible: 75)	41	42	67	59	44	63	48

5.5 The Recommended Approach

The findings of the study to this point reveal a significant and expanding unmet need for higher educational services in the North Snohomish, Island, and Skagit County area. By the year 2010 there will be a need to serve over 6,500 added FTE students in the study area, divided approximately equally between community college/lower division and upper division/graduate. The study findings estimate that full time equivalent enrollments will grow to nearly 10,000 by 2020.

At the community college/lower division level, we recommend that the needs be met by the three area community colleges. At the upper division and graduate levels, the study findings support a staged response; one that would begin modestly in the form of a multi-institution consortium and evolve with time, in response to area access and program needs, to a final configuration. Major transitional steps could occur as the organization met pre-established criteria. The operating details will need to be defined and resolved, but the following outline describes the primary features and developmental phases of the recommended model.

The Transitional Consortium Model

PHASE I: MULTI-INSTITUTION HIGHER EDUCATION CENTER (BASED ON SOUTH CAROLINA'S GREENVILLE HIGHER EDUCATION CENTER AND THE SOUTH CENTRAL INDIANA EDUCATIONAL ALLIANCE):

- Multi-institution, consortium-based, Higher Education Center offering fully articulating academic and technical programs at the upper-division and graduate levels.
- Multi-locational, with a site, a facility, and interactive technological connections to each of the three area community colleges and satellites, the area military bases, and the tribal centers in a network that would employ classroom, job site, and telecommunications and other technologically transported learning experiences.

- The Center would be located in a nucleus facility at an appropriate site, modeled on the Greenville Higher Education Center complex (the GHEC complex features state-of-the-art classrooms, computer laboratories, study areas, conference rooms, counseling areas, student commons, exhibit hall, televised study classrooms, administration and faculty offices).
- Institutional Consortium members of the Higher Education Center would include Western Washington University; Central Washington University; the University of Washington, Washington State University; and Edmonds, Everett, and Skagit Valley Community Colleges.
- The presence of strong and active community support and employment-relevant education would be assured by an Association of community representatives from the three affected counties who would be responsible for identifying and advising the consortium on local educational needs and other matters associated with the community interest. Military base and tribal representation would be a feature.
- The organizational structure of the Higher Education Center would comprise the institutional partners of the Consortium and the members of the Association of community representatives in a coalition designated the "Alliance."
- Basic roles and responsibilities associated with institutional membership in the Consortium and community Association involvement in the Alliance would be specified through a memorandum of understanding (MOU) and other inter-local agreements.
- A four-year public institution (possibly Western Washington University or the University of Washington by virtue of their proximity) would serve as fiscal agent and site management and coordinating institution; the coordinating institution also would be the lead institution for purposes of accreditation. The HECB may wish to consider proposals from participating public four-year institutions to serve as the fiscal agent/site manager/host institution for the Higher Education Center.
- Area community colleges would provide all lower-division instruction; their classroom and laboratory facilities also would be potential instructional sites, on a time-available basis, for participating institutions; conversely, nucleus facility classrooms and other instructional facilities would be available to any participating institution on a scheduled basis.
- Servicing institutions would assume responsibility to provide the preponderant portions of complete individual programs, filling in

gaps with courses offered by other participating institutions; private colleges and universities could provide program services and courses on a contractual basis; student financial assistance would be available through the institution sponsoring the respective students' program (aid also might be available directly through the site management or host institution).

- Tuition and fees at the lower-division level would be those of the area community colleges; upper-division and graduate tuition and fees would be those of the regional universities; as a matter of principle, the capital outlay and the services and activities portions of student fees would be associated with the Center.
- The Center would be a "teaching institution" in the sense it would have an instructional mission, and the program focus would be academic and technical, with instructional programs suited to service area needs; a heavy emphasis would be placed on programs such as the Bachelor of Technology and on fully-articulating ("seamless") lower- and upper-division programs.
- Baccalaureate and graduate programs would be completable "on site," i.e., wholly within the Center (including its technological network) without additional residence requirements.
- Student/faculty ratios and costs would correspond with extant standards.

CRITERIA GOVERNING PASSAGE TO PHASE II, IF ORGANIZATIONAL CHANGE IS DEEMED TO BE DESIRABLE:

- Established operating history of no less than Five Years.
- No less than 3,000 FTEs, with a potential of growth to no less than 5,000 FTEs.
- An academic plan approved by the HECB, and no less than five baccalaureate or above programs that can be completed wholly at the site (w/telecommunications)
- Statistical evidence that the demand is permanent

PHASE II: UPPER-LEVEL AND GRADUATE CAMPUS OF AN APPROPRIATE UNIVERSITY (BASED ON UPPER-LEVEL UNIVERSITIES IN WASHINGTON, CALIFORNIA, ARIZONA, TEXAS, AND FLORIDA):

- Upper-Level/Graduate Campus of an appropriate Washington university, as specified by the HECB.
- Participants: Parent University and area community colleges, with community colleges responsible for lower-division instruction, and continued participation of other four-year institutions if appropriate.
- Home institution responsible for expanded services through contractual arrangements with other interested institutions.
- Program Focus: Academic and Technical, suited to service area needs.
- The community Association becomes an institutionally appointed Campus Community Advisory Board.
- All programs completable at the site (and technological network)
- Student/Faculty ratios and costs correspond with main campus standards.
- Master planning and site acquisition for a permanent campus and permanent facilities authorized and funded.

5.6 Facilities Implications

In evaluating the various models under consideration we identified relatively few differences in operating cost patterns with the exception of the virtual university model, where insufficient evidence was available for costing. In the area of capital costs, there were more significant differences, with the virtual university, the broker model, and upper division programming at community colleges reflecting significantly smaller capital costs. None of these models were among the top choices however. Of the high ranking alternatives, the combination of utilizing the capacity of the existing community colleges and establishing the Consortium Higher Education Center has substantially lower capital investment implications.

The build-out of the three area community colleges takes advantage of the existing infrastructure and involves only marginal additions to existing facilities. The estimated extent is still under study by the State Board for Community and Technical Colleges. The Consortium Higher Education Center is estimated to require approximately 100 gross square feet per day-on-campus FTE student. This compares to approximately 200 gross square feet of education and general space per student at Western and Central Washington universities. When it is considered that the recommended model involves extensive use of technology and assumes substantial operation in evening and weekend hours, the facilities amount per student drops to below 70 gross square feet.

5.7 Closing Observations

An additional issue emerges as thought turns to the question of whether the alternative organizational forms will meet needs that are likely to appear further out on the planning horizon than the year 2020. Consortia and upper-level universities may prove to be transitional organizations that with time develop into more typical forms of four-year institutions. Washington will almost certainly confront this prospect not only in the case of any approach recommended for the study area but also as its present branch campuses mature. It might be prudent to anticipate this eventuality in two ways. The first would be to devote prior consideration to the specification of precise transitional criteria (perhaps an expanded form of the list suggested above – e.g., established operating history of 10 years; growth potential of no less than 7,000 FTEs; an academic plan approved by the HECB, etc.). The second would be to devote some early thought to the preferred type of next stage institution. In the case of the North Snohomish, Island, and Skagit County area, the urban university, building on local

community college lower-division programming, certainly offers possibilities as a form that emphasizes responsiveness to community needs through a conceptual extension of the community college mission to upper-division and graduate studies. The urban university is an institution that stresses instruction and programming provided in a manner and at times and places suited to the needs of the residents of the urbanized areas it serves. This appears to be the sort of responsiveness that people in the area say they want.

In closing, it should be evident that no single alternative is likely to prove perfectly suited to all conditions. The presence of such examples, however, represents a positive sign in that the typical immediate response to evidence of need no longer seems to be "a new four-year institution" or a "new two-year institution".

Society is changing. New conceptions of institutional types and forms are necessary, and it is important that these fit the circumstances and needs of the communities and regions they are to serve. Structurally, higher education systems can and probably should be more varied, perhaps more disorderly, than any presently in operation. It may be that such messiness would offer a constant reminder that the system truly is responsive.

APPENDICES

APPENDIX A

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APPENDIX B

**Exhibit 1-A
Community Colleges**

Island County											
Year	Total Population	Population by Age				Total 17+ Population	Participation Rate by Age				Enrollment
		17-22	23-29	30-39	40+		17-22	23-29	30-39	40+	
1995	68,901	5,690	8,008	10,874	27,277	51,849	12.5%	6.20%	4.61%	2.66%	2,433
2000	75,180	6,604	8,691	10,746	32,682	58,723	12.7%	6.29%	4.68%	2.70%	2,768
2005	80,982	7,207	9,405	10,528	38,222	65,362	12.9%	6.39%	4.74%	2.74%	3,073
2010	86,171	7,516	10,238	11,051	42,897	71,702	13.0%	6.48%	4.81%	2.78%	3,367
2015	99,970	7,658	10,573	12,089	47,488	77,808	13.2%	6.57%	4.88%	2.82%	3,636
2020	106,649	7,804	10,619	13,071	51,743	83,237	13.4%	6.66%	4.95%	2.86%	3,880

Skagit County											
Year	Total Population	Population by Age				Total 17+ Population	Participation Rate by Age				Enrollment
		17-22	23-29	30-39	40+		17-22	23-29	30-39	40+	
1995	93,101	5,890	8,104	14,542	40,544	69,080	25.5%	9.75%	5.58%	2.21%	4,001
2000	103,478	7,016	7,951	15,177	47,144	77,288	25.5%	9.75%	5.58%	2.21%	4,455
2005	114,635	8,098	8,895	14,940	54,363	86,297	25.5%	9.75%	5.58%	2.21%	4,969
2010	125,508	8,888	10,300	14,909	61,282	95,379	25.5%	9.75%	5.58%	2.21%	5,459
2015	137,714	9,297	11,342	16,722	67,799	105,160	25.5%	9.75%	5.58%	2.21%	5,910
2020	152,812	9,764	12,298	19,348	75,348	116,758	25.5%	9.75%	5.58%	2.21%	6,436

North Snohomish County											
Year	Total Population	Population by Age				Total 17+ Population	Participation Rate by Age				Enrollment
		17-22	23-29	30-39	40+		17-22	23-29	30-39	40+	
1995	200,835	13,737	18,264	37,648	77,865	147,513	21.4%	10.26%	6.58%	3.45%	9,985
2000	221,731	17,193	18,706	34,728	95,563	166,190	21.4%	10.26%	6.58%	3.45%	11,191
2005	240,505	21,236	23,094	32,720	114,743	191,793	21.4%	10.26%	6.58%	3.45%	13,038
2010	259,279	22,441	26,985	33,950	128,269	211,646	21.4%	10.26%	6.58%	3.45%	14,244
2015	281,978	22,632	28,995	39,090	140,280	230,997	21.4%	10.26%	6.58%	3.45%	15,244
2020	304,676	22,666	28,917	43,820	151,536	246,939	21.4%	10.26%	6.58%	3.45%	15,943

Study Area Total											
Year	Total Population	Population by Age				Total 17+ Population	Participation Rate by Age				Enrollment
		17-22	23-29	30-39	40+		17-22	23-29	30-39	40+	
1995	362,837	25,317	34,376	63,064	145,686	268,442	19.8%	8.74%	5.59%	2.78%	16,419
2000	400,389	30,812	35,348	60,651	175,389	302,200	19.9%	8.77%	5.61%	2.79%	18,413
2005	436,122	36,541	41,395	58,188	207,328	343,452	19.9%	8.80%	5.63%	2.80%	21,080
2010	470,958	38,846	47,523	59,910	232,448	378,727	20.0%	8.83%	5.66%	2.82%	23,070
2015	519,662	39,587	50,910	67,901	255,567	413,966	20.1%	8.86%	5.68%	2.83%	24,791
2020	564,137	40,234	51,834	76,239	278,627	446,935	20.1%	8.89%	5.70%	2.84%	26,260

Exhibit 1-B
Community Colleges
Enrollment at Current Rates

Island County									
Year	Group 1 Edmonds 0.18%	Group 2 Everett 0.11%	Group 3 Skagit Valley 4.04%	Group 4 Whatcom 0.03%	Group 5 ¹ N. King CC & TC 0.13%	Group 6 ² Il other TC' 0.19%	Group 7 ³ Eastern CC's 0.01%	Group 8 ⁴ All Other CC' 0.01%	Accom. Enrollment
1995	93	55	2,093	13	66	100	6	7	2,285
2000	105	62	2,370	15	66	113	7	8	2,579
2005	117	69	2,639	16	66	126	8	9	2,863
2010	129	76	2,894	18	66	138	8	10	3,135
2015	140	83	3,141	20	66	150	9	11	3,396
2020	149	88	3,360	21	66	161	10	11	3,628

Skagit County									
Year	Group 1 Edmonds 0.03%	Group 2 Everett 0.06%	Group 3 Skagit Valley 4.80%	Group 4 Whatcom 0.14%	Group 5 ¹ N. King CC & TC 0.07%	Group 6 ² Il other TC' 0.66%	Group 7 ³ Eastern CC's 0.02%	Group 8 ⁴ All Other CC' 0.01%	Accom. Enrollment
1995	22	42	3,313	95	46	458	17	8	4,001
2000	25	47	3,707	106	46	512	19	9	4,471
2005	27	52	4,139	119	46	572	21	10	4,987
2010	30	58	4,574	131	46	632	23	11	5,507
2015	33	64	5,043	145	46	697	26	12	6,067
2020	37	71	5,600	161	46	774	29	14	6,731

North Snohomish County									
Year	Group 1 Edmonds 1.54%	Group 2 Everett 3.91%	Group 3 Skagit Valley 0.37%	Group 4 Whatcom 0.01%	Group 5 ¹ N. King CC & TC 0.73%	Group 6 ² Il other TC' 0.17%	Group 7 ³ Eastern CC's 0.02%	Group 8 ⁴ All Other CC' 0.02%	Accom. Enrollment
1995	2,266	5,766	551	9	1,082	256	23	32	9,985
2000	2,553	6,496	621	10	1,082	288	26	36	11,112
2005	2,946	7,497	716	12	1,082	333	30	42	12,658
2010	3,251	8,273	791	13	1,082	367	33	46	13,856
2015	3,548	9,029	863	14	1,082	401	36	50	15,024
2020	3,793	9,652	922	15	1,082	429	39	54	15,986

Study Area Total									
Year	Group 1 Edmonds 0.89%	Group 2 Everett 2.20%	Group 3 Skagit Valley 2.20%	Group 4 Whatcom 0.04%	Group 5 ¹ N. King CC & TC 0.33%	Group 6 ² Il other TC' 0.30%	Group 7 ³ Eastern CC's 0.02%	Group 8 ⁴ All Other CC' 0.02%	Accom. Enrollment
1995	2,381	5,863	5,957	117	1,194	814	46	47	16,419
2000	2,683	6,605	6,698	131	1,194	914	52	53	18,330
2005	3,091	7,619	7,494	147	1,194	1,031	59	60	20,694
2010	3,410	8,407	8,259	162	1,194	1,138	65	67	22,702
2015	3,721	9,176	9,047	178	1,194	1,248	71	73	24,708
2020	3,980	9,812	9,882	197	1,194	1,363	77	78	26,582

1. Group 5: Bellevue, North Seattle, Seattle Central, Shoreline, South Seattle, Lake Washington

2. Group 6: Bates, Bellingham, Clover Park, Renton, Seattle Voc Institute

3. Group 7: Big Bend, Columbia Basin, Spokane, Spokane Falls, Walla Walla, Wenatchee Valley, Yakima Valley

4. Group 8: Centralia, Grays Harbor, Green River, Highline, Peninsula, Olympic, Pierce, South Puget Sound, Tacoma

Exhibit 2-A
Lower Division Headcount
at Current 4-Year Participation Rates

Island County											
Year	Total Population	Population by Age				Total 17+ Population	Participation Rate by Age				Enrollment
		17-22	23-29	30-39	40+		17-22	23-29	30-39	40+	
1995	68,901	5,690	8,008	10,874	27,277	51,849	2.32%	0.87%	0.20%	0.05%	160
2000	75,180	6,604	8,691	10,746	32,682	58,723	2.32%	0.87%	0.20%	0.05%	266
2005	80,982	7,207	9,405	10,528	38,222	65,362	2.32%	0.87%	0.20%	0.05%	289
2010	86,171	7,516	10,238	11,051	42,897	71,702	2.32%	0.87%	0.20%	0.05%	307
2015	99,970	7,658	10,573	12,089	47,488	77,808	2.32%	0.87%	0.20%	0.05%	317
2020	106,649	7,804	10,619	13,071	51,743	83,237	2.32%	0.87%	0.20%	0.05%	325

Skagit County											
Year	Total Population	Population by Age				Total 17+ Population	Participation Rate by Age				Enrollment
		17-22	23-29	30-39	40+		17-22	23-29	30-39	40+	
1995	93,101	5,890	8,104	14,542	40,544	69,080	2.32%	0.87%	0.20%	0.05%	256
2000	103,478	7,016	7,951	15,177	47,144	77,288	2.32%	0.87%	0.20%	0.05%	285
2005	114,635	8,098	8,895	14,940	54,363	86,297	2.32%	0.87%	0.20%	0.05%	322
2010	125,508	8,888	10,300	14,909	61,282	95,379	2.32%	0.87%	0.20%	0.05%	356
2015	137,714	9,297	11,342	16,722	67,799	105,160	2.32%	0.87%	0.20%	0.05%	381
2020	152,812	9,764	12,298	19,348	75,348	116,758	2.32%	0.87%	0.20%	0.05%	409

North Snohomish County											
Year	Total Population	Population by Age				Total 17+ Population	Participation Rate by Age				Enrollment
		17-22	23-29	30-39	40+		17-22	23-29	30-39	40+	
1995	200,835	13,737	18,264	37,648	77,865	147,513	2.60%	0.97%	0.22%	0.06%	678
2000	221,731	17,193	18,706	34,728	95,563	166,190	2.60%	0.97%	0.22%	0.06%	758
2005	240,505	21,236	23,094	32,720	114,743	191,793	2.60%	0.97%	0.22%	0.06%	912
2010	259,279	22,441	26,985	33,950	128,269	211,646	2.60%	0.97%	0.22%	0.06%	992
2015	281,978	22,632	28,995	39,090	140,280	230,997	2.60%	0.97%	0.22%	0.06%	1,034
2020	304,676	22,666	28,917	43,820	151,536	246,939	2.60%	0.97%	0.22%	0.06%	1,051

Study Area Total											
Year	Total Population	Population by Age				Total 17+ Population	Participation Rate by Age				Enrollment
		17-22	23-29	30-39	40+		17-22	23-29	30-39	40+	
1995	362,837	25,317	34,376	63,064	145,686	268,442	2.41%	0.90%	0.20%	0.05%	1,053
2000	400,389	30,812	35,348	60,651	175,389	302,200	2.41%	0.90%	0.20%	0.05%	1,278
2005	436,122	36,541	41,395	58,188	207,328	343,452	2.41%	0.90%	0.20%	0.05%	1,482
2010	470,958	38,846	47,523	59,910	232,448	378,727	2.41%	0.90%	0.20%	0.05%	1,610
2015	519,662	39,587	50,910	67,901	255,567	413,966	2.41%	0.90%	0.20%	0.05%	1,687
2020	564,137	40,234	51,834	76,239	278,627	446,935	2.41%	0.90%	0.20%	0.05%	1,740

Exhibit 2-B
Lower Division Headcount
Enrollment at Current Rates

	Island County											
	UW SEATTLE 0.11%	UW EVENING 0.00%	UW BOTHELL 0.00%	UW TACOMA 0.00%	WSU PULLMAN 0.08%	WSU SPOKAN 0.00%	WSU VANCOUVER 0.00%	CWU 0.02%	TESC 0.02%	WWU 0.06%	EWU 0.02%	Accom. Enrollment
1995	57	0	0	0	44	0	0	10	9	32	8	160
2000	57	0	0	0	50	0	0	11	10	36	9	174
2005	57	0	0	0	55	0	0	13	11	40	10	187
2010	57	0	0	0	61	0	0	14	12	40	11	196
2015	57	0	0	0	66	0	0	15	14	40	12	204
2020	57	0	0	0	71	0	0	16	14	40	13	211

	Skagit County											
	UW SEATTLE 0.09%	UW EVENING 0.00%	UW BOTHELL 0.00%	UW TACOMA 0.00%	WSU PULLMAN 0.10%	WSU SPOKAN 0.00%	WSU VANCOUVER 0.00%	CWU 0.01%	TESC 0.02%	WWU 0.09%	EWU 0.01%	Accom. Enrollment
1995	63	0	1	0	68	0	0	9	11	59	9	220
2000	63	0	1	0	76	0	0	10	12	66	10	239
2005	63	0	1	0	85	0	0	11	14	74	11	259
2010	63	0	1	0	94	0	0	12	15	74	12	272
2015	63	0	1	0	104	0	0	14	17	74	14	286
2020	63	0	1	0	115	0	0	15	19	74	15	302

	North Snohomish County											
	UW SEATTLE 0.20%	UW EVENING 0.00%	UW BOTHELL 0.01%	UW TACOMA 0.00%	WSU PULLMAN 0.10%	WSU SPOKAN 0.00%	WSU VANCOUVER 0.00%	CWU 0.03%	TESC 0.01%	WWU 0.09%	EWU 0.02%	Accom. Enrollment
1995	297	1	8	0	154	0	0	38	18	136	26	678
2000	319	1	8	0	173	0	0	43	20	153	29	747
2005	319	1	8	0	200	0	0	49	23	169	34	804
2010	319	1	8	0	221	0	0	55	26	169	37	836
2015	319	2	8	0	241	0	0	60	28	169	41	867
2020	319	2	8	0	258	0	0	64	30	169	44	893

	Study Area Total											
	UW SEATTLE 0.06%	UW EVENING 0.00%	UW BOTHELL 0.00%	UW TACOMA 0.00%	WSU PULLMAN 0.05%	WSU SPOKAN 0.00%	WSU VANCOUVER 0.00%	CWU 0.01%	TESC 0.01%	WWU 0.04%	EWU 0.01%	Accom. Enrollment
1995	417	1	9	0	266	0	0	57	33	227	43	1,053
2000	439	1	9	0	299	0	0	64	37	255	48	1,154
2005	439	1	9	0	341	0	0	73	42	283	55	1,244
2010	439	1	9	0	376	0	0	81	46	283	61	1,296
2015	439	2	9	0	411	0	0	88	51	283	66	1,349
2020	439	2	9	0	443	0	0	95	55	283	72	1,397

Exhibit 3-A
Upper Division Headcount

Island County											
Year	Total Population	Population by Age				Total 17+ Population	Participation Rate by Age				Enrollment
		17-22	23-29	30-39	40+		17-22	23-29	30-39	40+	
1995	68,901	5,690	8,008	10,874	27,277	51,849	3.65%	1.37%	0.31%	0.08%	303
2000	75,180	6,604	8,691	10,746	32,682	58,723	4.70%	1.76%	0.40%	0.10%	539
2005	80,982	7,207	9,405	10,528	38,222	65,362	5.75%	2.15%	0.49%	0.12%	715
2010	86,171	7,516	10,238	11,051	42,897	71,702	6.80%	2.54%	0.57%	0.15%	898
2015	99,970	7,658	10,573	12,089	47,488	77,808	7.64%	2.86%	0.65%	0.16%	1,044
2020	106,649	7,804	10,619	13,071	51,743	83,237	8.49%	3.18%	0.72%	0.18%	1,188

Skagit County											
Year	Total Population	Population by Age				Total 17+ Population	Participation Rate by Age				Enrollment
		17-22	23-29	30-39	40+		17-22	23-29	30-39	40+	
1995	93,101	5,890	8,104	14,542	40,544	69,080	4.76%	1.78%	0.40%	0.10%	514
2000	103,478	7,016	7,951	15,177	47,144	77,288	5.44%	2.03%	0.46%	0.12%	668
2005	114,635	8,098	8,895	14,940	54,363	86,297	6.12%	2.29%	0.52%	0.13%	848
2010	125,508	8,888	10,300	14,909	61,282	95,379	6.80%	2.54%	0.57%	0.15%	1,042
2015	137,714	9,297	11,342	16,722	67,799	105,160	7.64%	2.86%	0.65%	0.16%	1,255
2020	152,812	9,764	12,298	19,348	75,348	116,758	8.49%	3.18%	0.72%	0.18%	1,495

North Snohomish County											
Year	Total Population	Population by Age				Total 17+ Population	Participation Rate by Age				Enrollment
		17-22	23-29	30-39	40+		17-22	23-29	30-39	40+	
1995	200,835	13,737	18,264	37,648	77,865	147,513	4.15%	1.55%	0.35%	0.09%	1,222
2000	221,731	17,193	18,706	34,728	95,563	166,190	5.03%	1.88%	0.43%	0.11%	1,468
2005	240,505	21,236	23,094	32,720	114,743	191,793	5.92%	2.21%	0.50%	0.13%	2,077
2010	259,279	22,441	26,985	33,950	128,269	211,646	6.80%	2.54%	0.57%	0.15%	2,596
2015	281,978	22,632	28,995	39,090	140,280	230,997	7.64%	2.86%	0.65%	0.16%	3,042
2020	304,676	22,666	28,917	43,820	151,536	246,939	8.49%	3.18%	0.72%	0.18%	3,433

Study Area Total											
Year	Total Population	Population by Age				Total 17+ Population	Participation Rate by Age				Enrollment
		17-22	23-29	30-39	40+		17-22	23-29	30-39	40+	
1995	362,837	25,317	34,376	63,064	145,686	268,442	4.18%	1.57%	0.35%	0.09%	2,039
2000	400,389	30,812	35,348	60,651	175,389	302,200	5.06%	1.89%	0.43%	0.11%	2,676
2005	436,122	36,541	41,395	58,188	207,328	343,452	5.93%	2.22%	0.50%	0.13%	3,640
2010	470,958	38,846	47,523	59,910	232,448	378,727	6.80%	2.54%	0.57%	0.15%	4,535
2015	519,662	39,587	50,910	67,901	255,567	413,966	7.64%	2.86%	0.65%	0.16%	5,341
2020	564,137	40,234	51,834	76,239	278,627	446,935	8.49%	3.18%	0.72%	0.18%	6,116

Exhibit 3-B
Upper Division Headcount
Enrollment at Current Rates

Island County												
Year	UW SEATTLE 0.13%	UW EVENIN 0.00%	UW BOTHELL 0.02%	UW TACOMA 0.00%	WSU PULLMAN 0.06%	WSU SPOKAN 0.00%	WSU VANCOUVER 0.00%	CWU 0.06%	TESC 0.02%	WWU 0.28%	EWU 0.02%	Accom. Enrollment
1995	67	0	8	1	32	0	0	31	10	143	11	303
2000	70	0	8	1	36	0	0	35	11	143	12	317
2005	70	0	8	1	40	0	0	39	13	143	14	328
2010	70	0	8	1	44	0	0	43	14	143	15	339
2015	70	0	8	2	48	0	0	47	15	143	17	349
2020	70	0	8	2	51	0	0	50	16	143	18	357

Skagit County												
Year	UW SEATTLE 0.10%	UW EVENIN 0.00%	UW BOTHELL 0.01%	UW TACOMA 0.00%	WSU PULLMAN 0.09%	WSU SPOKAN 0.00%	WSU VANCOUVER 0.00%	CWU 0.05%	TESC 0.01%	WWU 0.47%	EWU 0.02%	Accom. Enrollment
1995	68	0	4	1	61	0	0	35	8	324	13	514
2000	70	0	4	1	68	0	0	39	9	324	15	530
2005	70	0	4	1	76	0	0	44	10	324	16	545
2010	70	0	4	1	84	0	0	48	11	324	18	561
2015	70	0	4	2	93	0	0	53	12	324	20	578
2020	70	0	4	2	103	0	0	59	14	324	22	597

North Snohomish County												
Year	UW SEATTLE 0.30%	UW EVENIN 0.01%	UW BOTHELL 0.05%	UW TACOMA 0.00%	WSU PULLMAN 0.06%	WSU SPOKAN 0.00%	WSU VANCOUVER 0.00%	CWU 0.12%	TESC 0.01%	WWU 0.25%	EWU 0.03%	Accom. Enrollment
1995	437	15	73	0	85	1	0	181	22	366	42	1,222
2000	476	17	73	0	96	1	0	204	25	366	47	1,305
2005	476	20	73	0	111	1	0	235	29	366	55	1,365
2010	476	22	73	0	122	1	0	260	32	366	60	1,411
2015	476	23	73	0	133	2	0	283	34	366	66	1,457
2020	476	25	73	0	142	2	0	303	37	366	70	1,494

Study Area Total												
Year	UW SEATTLE 0.09%	UW EVENIN 0.00%	UW BOTHELL 0.01%	UW TACOMA 0.00%	WSU PULLMAN 0.04%	WSU SPOKAN 0.00%	WSU VANCOUVER 0.00%	CWU 0.05%	TESC 0.01%	WWU 0.12%	EWU 0.01%	Accom. Enrollment
1995	572	15	85	2	178	1	0	247	40	833	66	2,039
2000	616	17	85	2	200	1	0	278	45	833	74	2,152
2005	616	20	85	3	227	1	0	318	51	833	85	2,238
2010	616	22	85	3	250	1	0	351	56	833	93	2,311
2015	616	23	85	3	274	2	0	383	62	833	102	2,383
2020	616	25	85	3	297	2	0	412	67	833	110	2,449

Exhibit 4-A
Graduate/Professional Headcount

Island County											
Year	Total Population	Population by Age				Total 17+ Population	Participation Rate by Age				Enrollment
		17-22	23-29	30-39	40+		17-22	23-29	30-39	40+	
1995	68,901	5,690	8,008	10,874	27,277	51,849	0.50%	0.19%	0.04%	0.01%	33
2000	76,977	6,604	8,691	10,746	32,682	58,723	1.25%	0.47%	0.11%	0.03%	144
2005	84,892	7,207	9,405	10,528	38,222	65,362	2.01%	0.75%	0.17%	0.04%	250
2010	92,488	7,516	10,238	11,051	42,897	71,702	2.76%	1.03%	0.23%	0.06%	365
2015	99,970	7,658	10,573	12,089	47,488	77,808	3.10%	1.16%	0.26%	0.07%	423
2020	106,649	7,804	10,619	13,071	51,743	83,237	3.43%	1.28%	0.29%	0.07%	480

Skagit County											
Year	Total Population	Population by Age				Total 17+ Population	Participation Rate by Age				Enrollment
		17-22	23-29	30-39	40+		17-22	23-29	30-39	40+	
1995	93,101	5,890	8,104	14,542	40,544	69,080	0.77%	0.29%	0.07%	0.02%	94
2000	103,478	7,016	7,951	15,177	47,144	77,288	1.44%	0.54%	0.12%	0.03%	177
2005	114,635	8,098	8,895	14,940	54,363	86,297	2.10%	0.79%	0.18%	0.05%	291
2010	125,508	8,888	10,300	14,909	61,282	95,379	2.76%	1.03%	0.23%	0.06%	424
2015	137,714	9,297	11,342	16,722	67,799	105,160	3.10%	1.16%	0.26%	0.07%	508
2020	152,812	9,764	12,298	19,348	75,348	116,758	3.43%	1.28%	0.29%	0.07%	604

North Snohomish County											
Year	Total Population	Population by Age				Total 17+ Population	Participation Rate by Age				Enrollment
		17-22	23-29	30-39	40+		17-22	23-29	30-39	40+	
1995	200,835	13,737	18,264	37,648	77,865	147,513	0.55%	0.21%	0.05%	0.01%	210
2000	221,731	17,193	18,706	34,728	95,563	166,190	1.29%	0.48%	0.11%	0.03%	376
2005	240,505	21,236	23,094	32,720	114,743	191,793	2.03%	0.76%	0.17%	0.04%	712
2010	259,279	22,441	26,985	33,950	128,269	211,646	2.76%	1.03%	0.23%	0.06%	1,055
2015	281,978	22,632	28,995	39,090	140,280	230,997	3.10%	1.16%	0.26%	0.07%	1,232
2020	304,676	22,666	28,917	43,820	151,536	246,939	3.43%	1.28%	0.29%	0.07%	1,387

Study Area Total											
Year	Total Population	Population by Age				Total 17+ Population	Participation Rate by Age				Enrollment
		17-22	23-29	30-39	40+		17-22	23-29	30-39	40+	
1995	362,837	25,317	34,376	63,064	145,686	268,442	0.61%	0.23%	0.05%	0.01%	338
2000	402,186	30,812	35,348	60,651	175,389	302,200	1.33%	0.50%	0.11%	0.03%	702
2005	440,032	36,541	41,395	58,188	207,328	343,452	2.05%	0.77%	0.17%	0.04%	1,256
2010	477,275	38,846	47,523	59,910	232,448	378,727	2.76%	1.03%	0.23%	0.06%	1,844
2015	519,662	39,587	50,910	67,901	255,567	413,966	3.10%	1.16%	0.26%	0.07%	2,163
2020	564,137	40,234	51,834	76,239	278,627	446,935	3.43%	1.28%	0.29%	0.07%	2,470

Exhibit 4-B
Graduate/Professional Headcount
Enrollment at Current Rates

	Island County											
Year	UW SEATTLE 0.03%	UW EVENIN 0.00%	UW BOTHHELL 0.00%	UW TACOMA 0.00%	WSU PULLMAN 0.00%	WSU SPOKANE 0.00%	WSU VANCOUVER 0.00%	CWU 0.00%	TESC 0.00%	WWU 0.03%	EWU 0.00%	Accom. Enrollment
1995	14	0	0	0	1	0	0	1	0	16	1	33
2000	15	0	0	0	1	0	0	1	0	18	1	37
2005	15	0	0	0	1	0	0	1	0	20	1	39
2010	15	0	0	0	1	0	0	1	0	22	1	41
2015	15	0	0	0	2	0	0	2	0	22	2	42
2020	15	0	0	0	2	0	0	2	0	22	2	42

	Skagit County											
Year	UW SEATTLE 0.04%	UW EVENIN 0.00%	UW BOTHHELL 0.00%	UW TACOMA 0.00%	WSU PULLMAN 0.01%	WSU SPOKANE 0.00%	WSU VANCOUVER 0.00%	CWU 0.00%	TESC 0.00%	WWU 0.08%	EWU 0.00%	Accom. Enrollment
1995	29	0	2	0	4	0	0	3	1	55	0	94
2000	31	0	2	0	4	0	0	3	1	62	0	103
2005	31	0	2	0	5	0	0	4	1	69	0	112
2010	31	0	2	0	6	0	0	4	1	76	0	120
2015	31	0	2	0	6	0	0	5	2	76	0	124
2020	31	0	2	0	7	0	0	5	2	76	0	122

	North Snohomish County											
Year	UW SEATTLE 0.08%	UW EVENIN 0.00%	UW BOTHHELL 0.01%	UW TACOMA 0.00%	WSU PULLMAN 0.01%	WSU SPOKANE 0.00%	WSU VANCOUVER 0.00%	CWU 0.01%	TESC 0.00%	WWU 0.04%	EWU 0.00%	Accom. Enrollment
1995	113	2	10	0	13	0	1	8	2	56	5	210
2000	123	2	10	0	15	0	1	9	2	63	6	231
2005	123	3	10	0	17	0	1	10	3	73	7	246
2010	123	3	10	0	19	0	1	11	3	83	7	260
2015	123	3	10	0	20	0	2	13	3	83	8	265
2020	123	3	10	0	22	0	2	13	3	83	8	268

	Study Area Total											
Year	UW SEATTLE 0.05%	UW EVENIN 0.00%	UW BOTHHELL 0.00%	UW TACOMA 0.00%	WSU PULLMAN 0.01%	WSU SPOKANE 0.00%	WSU VANCOUVER 0.00%	CWU 0.00%	TESC 0.00%	WWU 0.05%	EWU 0.00%	Accom. Enrollment
1995	156	2	12	0	18	0	1	12	4	127	6	338
2000	169	2	12	0	20	0	1	14	4	143	7	372
2005	169	3	12	0	23	0	1	16	5	162	8	398
2010	169	3	12	0	26	0	1	17	5	181	9	423
2015	169	3	12	0	28	0	2	19	6	181	9	429
2020	169	3	12	0	30	0	2	20	6	181	10	433

APPENDIX C

According to a recent statewide survey conducted by MGT of America and Elway Research, "Washingtonians believe they are entitled to access to higher education and believe a place will be there for them and their children."

The Governor's Task Force on Higher Education estimates that the state of Washington will need the capacity to serve an "additional 84,000 FTE (full-time equivalent) enrollments by the year 2010. Retraining and training of unemployed workers will require about 10,000 additional slots by 2010."

An earlier study indicated that if the capacity of all existing and planned public two- and four-year institutions in this area was fully utilized, an unmet enrollment need of 6,923 FTE students would exist through the year 2012.

The 1996 Washington State Legislature mandated the Higher Education Coordinating Board to conduct a study of future higher education and workforce training needs in North Snohomish, Island and Skagit counties. MGT of America, Inc., was selected to assess needs and identify alternative approaches for delivering post secondary education programs to the area's citizens.

A series of Community Forums have been scheduled for locations throughout the three-county area. The public is strongly urged to attend and share ideas and suggestions regarding the future of higher education and workforce training. All meetings are scheduled from 6:30-8:30 PM. The public is invited to stop in or stay for the full program.

COMMUNITY FORUM SCHEDULE

Stanwood	August 19	High School Cafeteria, 7400-272nd St. NW	If you are unable to attend a Community Forum, we encourage you to complete this brief survey and return it to: MGT of America, Inc. ATTN: HECB '96 1607 Cooper Point Road NW Olympia, WA 98502
Oak Harbor	August 20	Skagit Valley College Library Building	
Anacortes	August 21	Chamber of Commerce, 819 Commercial Ave	
Everett	August 22	Everett Community College, Jackson Center Room	
Mount Vernon	August 26	Skagit Valley College, Admin. Bldg., Cascade Room	
Marysville	August 28	Public Library	

1. On a scale of 1-10 (with 1 being "not at all" and 10 being "completely"), how well do you feel your area's needs are met for the following types of higher education?	5. If Yes, which school, what program area
Two-year Community College education programs	
Technical education programs	
University level programs	
Graduate and professional programs	
2. What changes, if any, would you like to see in the availability of higher education in this area?	6. Do you think you will be able to attend? <input type="checkbox"/> Yes <input type="checkbox"/> No
	If not, what factor would prevent you from attending.
3. Are there specific courses or programs that you feel should be offered in this area?	Gender (M) _____ (F) _____
	Age Group: Under 17 _____ 17-22 _____ 23-29 _____
	30-39 _____ 40-49 _____ 50 and over _____
4. Are you planning or hoping to attend a college or university in Washington in the next two years? <input type="checkbox"/> Yes <input type="checkbox"/> No	County: _____

APPENDIX D

**EDUCATIONAL NEEDS ASSESSMENT SURVEY
AREA COMMUNITY LEADER
INTERVIEW GUIDE**

Respondent's Name _____ Date: _____
Position _____ Interviewer: _____
Firm/Agency/Organization _____
Phone Number _____

We are conducting a study for the Washington Higher Education Coordinating Board to identify higher education and workforce training needs and preferred delivery systems for the North Snohomish, Island and Skagit County area. You were identified by members of our Project Coordination Team or Planning Advisory Group as a community leader who is concerned with the educational issues addressed in this study. Because of this, we are interested in your responses to the following questions.

1. From previous studies, we have learned that college participation rates are somewhat lower in this area compared to other parts of the Puget Sound region. What do you think are some possible reasons for this?

2. What are currently the greatest post-high school educational needs in the study area? (Rank the following.)

Type of Need

Developmental (ABE, ESL, GED)	_____
Work Force Training	_____
Freshman, Sophomore level	_____
Junior, Senior level	_____
Graduate/Professional	_____

3. How well do you think educational needs in the study area are already being served by existing institutions?

4. Which of the following program areas do you think are most needed now? (check all that apply)

Program Areas

Business	_____
Office-related occupations	_____
Professional programs (law, medicine, etc.)	_____
Liberal Arts	_____
Computer Sciences	_____
Natural Sciences (chemistry, physics, biology)	_____
Social Sciences	_____
Education	_____
Mathematics	_____
Engineering	_____
Mechanical/Technical	_____
Other	_____

5. Which is currently the single most needed individual program?

6. Which of the following post-high school educational needs do you think will grow the fastest in the future (by 2010)? (Rank the following.)

Type of Need

Developmental (ABE, ESL, GED)	_____
Work Force Training	_____
Freshman, Sophomore level	_____
Junior, Senior level	_____
Graduate/Professional	_____

7. Which of the following program areas do you think will be most needed in the future (by 2010)? (Check all that apply.)

Program Areas

Business	_____
Office-related	_____
Professional programs (law, medicine, etc.)	_____
Liberal Arts	_____
Computer Sciences	_____
Natural Sciences	_____
Social Sciences	_____
Education	_____
Mathematics	_____
Engineering	_____
Mechanical/Technical	_____
Other	_____

8. Which is the program that will be most needed in the future?

9. There are a number of ways to provide instruction. How would you rate the following delivery systems in terms of their ability to meet the needs of the area? (Rate each of the following on a scale of 1 through 5, with 1 being "least meeting needs" and 5 being "most meeting needs")

Delivery Systems

Programs on the internet	_____
Two-way voice and video distance education:	
Student at home or work	_____
Students in group setting	_____
Classroom with students & teacher	_____
Telecourses	_____
Correspondence programs	_____

10. How important do you feel the following support services are?
(1=not important; 2=somewhat important; 3=important; 4=very important)

Support Services

Academic advising	_____
Career counseling	_____
Job placement	_____
Financial aid	_____
Child care	_____
Study skills	_____
Personal/social counseling	_____
Health services	_____

11. Previously we asked you what you thought should be done now to best serve the educational needs of the study area. What, if anything, do you think should be done in the future to best serve the educational needs of this study area?

12. Do you have any last comments or concerns about postsecondary education needs in the area that you would like to express?

APPENDIX E

**NORTH SNOHOMISH, ISLAND AND SKAGIT COUNTY AREA
HIGHER EDUCATION AND WORK FORCE TRAINING NEEDS
EMPLOYER SURVEY**

August 1996

Date:	Time:	Interviewer:
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Name of Company/Firm:

Name of Respondent:

Position/Title:

Address:			
Street			
City	State	Zip	

Phone Number:

Fax Number:

Location of Company:	<input type="checkbox"/> Snohomish Co.	<input type="checkbox"/> Skagit Co.	<input type="checkbox"/> Island Co.
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Size Classification:	<input type="checkbox"/> 100 or less	<input type="checkbox"/> 101 to 500
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SIC

1. **Would you briefly describe the product or service of your business/company/firm/agency?**

2. **How many employees work for your company/firm/agency in the area of Snohomish, Island and Skagit counties?** _____

3. What percentage of these employees are considered:

A. Management?	%	D. Skilled Technicians?	%
B. Professionals?	%	E. Clerical/ Support Staff?	%
C. Skilled and Unskilled Laborers?	%	TOTAL:	100%

Please answer the following set of questions for each of these five employee categories:

	Management	Professionals	Skilled Technicians	Clerical Staff	Skilled/Unskilled Laborers
4. How many new employees do you anticipate you will need over the next three years ?					
5. For those new hires, what is the typical level of education required ?	<input type="checkbox"/> Less than high school <input type="checkbox"/> High school diploma <input type="checkbox"/> Vocational certificate <input type="checkbox"/> 2-yr. college certificate <input type="checkbox"/> Bachelors degree <input type="checkbox"/> Professional degree <input type="checkbox"/> Graduate degree <input type="checkbox"/> Other (specify)	<input type="checkbox"/> Less than high school <input type="checkbox"/> High school diploma <input type="checkbox"/> Vocational certificate <input type="checkbox"/> 2-yr. college certificate <input type="checkbox"/> Bachelors degree <input type="checkbox"/> Professional degree <input type="checkbox"/> Graduate degree <input type="checkbox"/> Other (specify)	<input type="checkbox"/> Less than high school <input type="checkbox"/> High school diploma <input type="checkbox"/> Vocational certificate <input type="checkbox"/> 2-yr. college certificate <input type="checkbox"/> Bachelors degree <input type="checkbox"/> Professional degree <input type="checkbox"/> Graduate degree <input type="checkbox"/> Other (specify)	<input type="checkbox"/> Less than high school <input type="checkbox"/> High school diploma <input type="checkbox"/> Vocational certificate <input type="checkbox"/> 2-yr. college certificate <input type="checkbox"/> Bachelors degree <input type="checkbox"/> Professional degree <input type="checkbox"/> Graduate degree <input type="checkbox"/> Other (specify)	<input type="checkbox"/> Less than high school <input type="checkbox"/> High school diploma <input type="checkbox"/> Vocational certificate <input type="checkbox"/> 2-yr. college certificate <input type="checkbox"/> Bachelors degree <input type="checkbox"/> Professional degree <input type="checkbox"/> Graduate degree <input type="checkbox"/> Other (specify)
6. In the next three years, what percentage of all your (new hires and existing) employees will need training or education programs ?					
7. What type of training or education programs will be needed (be specific) ?					

8. Would your company offer training and educational programs:
- ☐ in-house.
 - ☐ through outside private trainers.
 - ☐ through contract with local college or university.
 - ☐ by encouraging employees to attend existing programs in the area.
 - ☐ all of the above.
9. Do you currently contract with any colleges or universities to provide training and education programs for your employees?
- ☐ Yes
 - ☐ No
10. In the future, do you plan to involve colleges and universities in your employee training and education activities?
- ☐ Yes
 - ☐ No
11. Does your company/firm currently offer incentives or assistance to employees who pursue training, educational courses or degree programs?
- ☐ Yes
 - ☐ No

IF YES:

11a. Which of the following do you offer to employees:

- ☐ Flexible Work Schedule?
- ☐ Release Time from Work?
- ☐ Leave of Absence?
- ☐ Partial Tuition Reimbursement?
- ☐ Full Tuition Reimbursement?
- ☐ Pay Other Expenses (i.e., books)?
- ☐ On-premise Classes?
- ☐ Salary Increase Upon Completion?

11b. Is company support or assistance dependent upon any of the following:

- ☐ Relevance of Employees Job/Position
- ☐ Employee Performance in Program/Course
- ☐ Type or Level of Employee Job/Position
- ☐ Employees Length of Time with the Company/Firm
- ☐ Determined on a Case by Case Basis
- ☐ Not Dependent Upon Any Specific Criteria.

12. Other than those you have already mentioned, are there any other training and education programs that are needed in the local area of Snohomish, Island and Skagit counties?
